

AGE, SEX, AND SIZE OF YUKON RIVER SALMON CATCH AND ESCAPEMENT, 1985

By:
Lawrence S. Buklis
and
John A. Wilcock

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ADF&G TECHNICAL DATA REPORTS

This series of reports is designed to facilitate prompt reporting of data from studies conducted by the Alaska Department of Fish and Game, especially studies which may be of direct and immediate interest to scientists of other agencies.

The primary purpose of these reports is presentation of data. Description of programs and data collection methods is included only to the extent required for interpretation of the data. Analysis is generally limited to that necessary for clarification of data collection methods and interpretation of the basic data. No attempt is made in these reports to present analysis of the data relative to its ultimate or intended use.

Data presented in these reports is intended to be final, however, some revisions may occasionally be necessary. Minor revision will be made via errata sheets. Major revisions will be made in the form of revised reports.

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Ву

Lawrence S. Buklis

and

John A. Wilcock

Alaska Department of Fish and Game Division of Commercial Fisheries Anchorage, Alaska

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ABSTRACT

Commercial and subsistence harvest of chinook (Oncorhynchus tshawytscha Walbaum), summer and fall chum (O. keta Walbaum), and coho salmon (O. keta Walbaum) for the Yukon River in 1985 are presented by age, sex, fishing district, and gear type. Samples are stratified by time period where possible and temporal trends in age and sex composition are discussed. Peak aerial survey salmon escapement counts, side-scan sonar, weir, foot survey, and fishpass counts are presented for all salmon escapements enumerated in the Yukon River drainage in 1985. Age, sex, and size composition is presented for those escapements that were sampled. This report includes all Yukon River salmon age-sex-size data collected in 1985. Those samples not used to apportion catches and escapements are summarized in appendices.

KEY WORDS: Yukon River, chinook salmon (Oncorhynchus tshawytscha), chum salmon (O. keta), coho salmon (O. kisutch), fishery synopsis, age classification.

INTRODUCTION

The Yukon River drainage supports major runs of chinook salmon (Oncorhynchus tshawytscha Walbaum), summer and fall chum salmon (O. keta Walbaum), and coho salmon (O. kisutch Walbaum). These species contribute to commercial and subsistence fisheries throughout the Yukon River drainage. Pink salmon (O. gorbuscha Walbaum) and sockeye salmon (O. nerka Walbaum) are also indigenous to the Yukon River drainage. Pink salmon returns are stronger in even-numbered years, while sockeye salmon are only rarely documented, and neither species is harvested by commercial or subsistence fishermen to any extent.

Most commercial fishing occurs in the lower 230 km (200 mi) of the river, where the harvest consists of mixed species and stocks of salmon bound for spawning areas throughout the Yukon River drainage. Resource management agencies, primarily the Alaska Department of Fish and Game (ADF&G) and the Department of Fisheries and Oceans, Canada (DFO), conduct a variety of programs that supply information used to manage and document the fisheries. These programs include: (1) documentation of catch in each fishery; (2) catch sampling for age, sex, and size data; (3) assessing the magnitude of spawning escapements by aerial and ground surveys, hydroacoustic counters, weirs, and visually through a fishpass; and (4) sampling major spawning escapements for age, sex, and size data. Total run estimates are obtained by ADF&G using hydroacoustic counters in the mainstem Yukon River near Pilot Station, and by DFO using tag and recapture methods at the US/Canada border.

Basic fishery statistics for Yukon River salmon are presented in several sources. Commercial and subsistence harvest data and escapement estimates are presented in the Yukon River Annual Management Report (1986). Historical escapement data are compiled in a computerized data base by Barton (1984). Detailed analysis of escapement sonar count data for the 1985 season is presented by Buklis (1985) for the Anvik and Andreafsky Rivers and by Barton (in prep.) for the Sheenjek River. Barton (in prep.) has expanded replicate foot survey counts of fall chum salmon on the Delta River to obtain a total season population estimate. Age, sex, and size summaries before 1982 were annually reported in the ADF&G Arctic-Yukon-Kuskokwim Region Age, Sex, and Size Composition of Salmon report series. Beginning with the 1982 season, age, sex, and size of Yukon River salmon has been presented in the series of which this report is the fourth edition. The previous reports were prepared by McBride, Hamner, and Buklis (1983), and by Buklis and Wilcock (1984 and 1985).

This report presents commercial and subsistence salmon harvest, and enumerated spawning escapements, in number of fish by age and sex. Indices of relative abundance and age and sex summaries are presented for other major spawning escapements. Length is reported by age and sex for each sampled fishery and escapement. No attempt has been made in this report to identify the origin of fish in mixed stock fisheries or to estimate the contribution of any spawning escapement to a fishery. It is hoped that this report will serve as an initial data base for further investigations of these parameters.

METHODS

Study Area Description

The Yukon Area includes all waters of the Yukon River and its tributary streams in Alaska (Figure 1) and the Yukon Territory, Canada (Figure 2), and all coastal waters from Canal Point light near Cape Stephens southward to the Naskonat Peninsula. The Alaska portion of the river is divided into six fishing districts as follows: Districts 1, 2, and 3 in the lower Yukon Area; and Districts 4, 5, and 6 in the upper Yukon Area. Commercial fishing occurs throughout the main stem Yukon River and in the lower 360 km (225 mi) of the Tanana River, however, most of the commercial harvest is taken in Districts 1 and 2. Set and drift gill nets are the legal gear in the lower Yukon, and set gill nets and fishwheels in the upper Yukon. Chinook and fall chum salmon are also commercially harvested in a predominantly gillnet fishery near Dawson City, Yukon Territory, although fishwheels are also used. Subsistence fishing is allowed throughout the drainage, although most of the effort is concentrated in the main Yukon River. The Annual Management Report (1986) provides a complete description of the Yukon River area and its fisheries.

Abundance of Catch and Escapement

Alaskan commercial catch data presented in this report were compiled by the Division of Commercial Fisheries for each management district and are based on computer tabulations of individual harvest receipts (fish tickets). sistence catch data were tabulated from personal interviews of subsistence fishermen in selected villages and from mail-in questionnaires. Gear types used to harvest salmon in the subsistence fishery are not accurately documented for the upper Yukon Area, where both gill nets and fishwheels are used. Subsistence catches in Districts 4, 5, and 6 are apportioned by gear type based on subjective estimates (Fred Andersen, upper Yukon Area Management Biologist, Division of Commercial Fisheries, ADF&G, pers. comm.) due to lack of adequate gear survey information. All Yukon Territory catch data were obtained from DFO. Canadian catch is reported here as entirely by gillnet, although an unknown portion of the commercial and subsistence harvest is taken by fishwheels. DFO does not provide harvest data by gear type. Gill nets are thought to account for the majority of both the chinook and chum salmon harvest in Yukon Territory.

Most escapement data are peak aerial survey estimates for selected spawning streams. An effort is made to survey the major spawning populations and these indices are taken to represent overall trends in escapement. Summer chum salmon escapement to the Anvik River and fall chum salmon escapement to the Sheenjek River was enumerated by ADF&G using side-scanning sonar counters. Chinook salmon escapement to the Big Salmon River and fall chum salmon escapement to the Fishing Branch River was enumerated by DFO using weirs. Chinook salmon passing the Whitehorse Dam in Yukon Territory, Canada were visually counted through a fishpass by DFO.



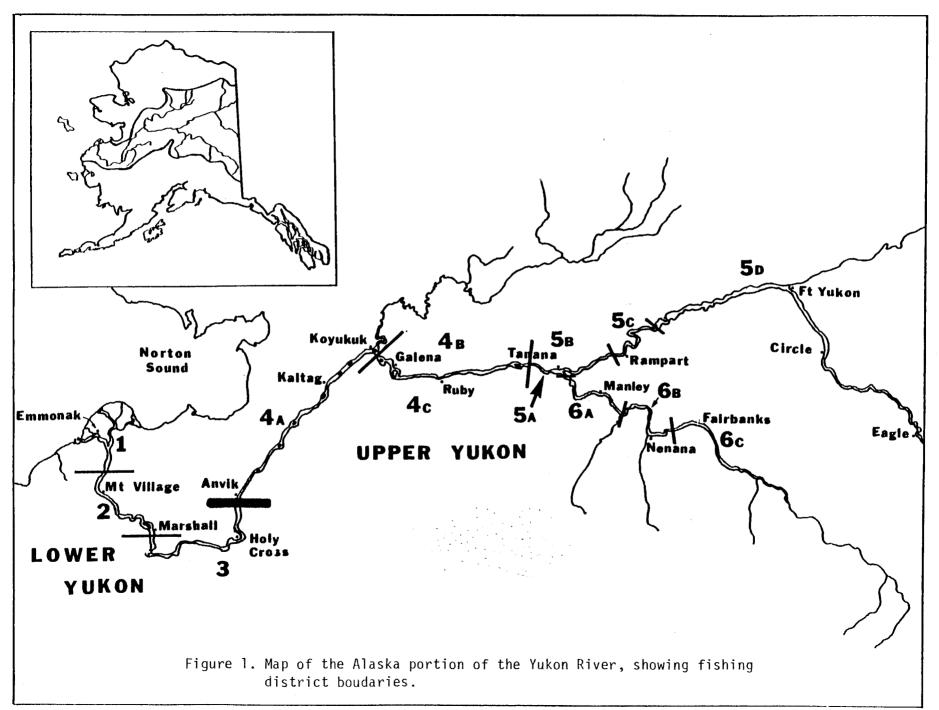


Figure 2. Map of the Canadian portion of the Yukon River.

Age, Sex, and Length

Salmon were sampled for scales, sex, and length. Examination of scale samples provided age information for salmon in the catch and escapement. Scales were taken from the left side of the fish approximately two rows above the lateral line and on the diagonal row downward from the posterior insertion of the dorsal fin (INPFC 1963). Scales were mounted on gum cards and permanent impressions made in cellulose acetate (Clutter and Whitesel 1956). Ages are reported in European notation. The first digit of the European formula refers to the number of freshwater annuli present on scales of the fish and represents the number of years of freshwater residence minus one (freshwater residence prior to scale formation). The second digit refers to the marine age of the fish. Total age is the sum of these two numbers plus one. Sex determination was based on examination of either external morphological features or gonads.

An attempt was made to sample fish from the commercial catch for each gear type in each district. However, because of logistic considerations involved in sampling such a widely dispersed fishery, many of the smaller harvests were not sampled. The majority of the commercial catch samples were collected in Districts 1 and 2. Subsistence catches were generally not sampled. Subsistence harvests were apportioned by age and sex for a given district and gear type based on commercial catch samples taken by that gear type in the same or, in some cases, a neighboring district. An attempt was made to sample the major chinook and chum salmon spawning populations. Most escapement data were collected from carcasses, although live salmon were captured by beach seine at the East Fork Andreafsky, Anvik, and Sheenjek Rivers.

Age and sex composition was estimated for each sampled fishery with a stratified systematic sampling design (Cochran 1977). Strata were defined as weekly periods (generally two fishing periods per week) for District 1 and 2 chinook salmon, and for District 1 summer chum, fall chum, and coho salmon during that portion of the season when the majority of the harvest was taken. For the other districts and fisheries, time strata were of variable length depending on the number of samples collected. An attempt was made to sample a sufficient number of fish within a strata to simultaneously estimate the true portion of each major age class in the catch within \pm 5 percentage points 90% of the time.

Age compositions and associated variances were estimated with procedures outlined by Cochran (1977) for stratified sampling programs:

Where:

Ct = Number of fish caught in stratum t,

Ptj = Fraction of sample in stratum t of age j,

Nt = Number of samples during stratum t,

Ctj = Estimated number of fish of age j during stratum t,

T = Total number of strata,

C.j = Estimated number of fish of age j for the season, T.

If there were insufficient samples to attain the above levels of precision and accuracy, the samples were pooled into a single sample period for that fishery or escapement. Catch or escapement was then apportioned by age and sex. For those escapement samples with only aerial survey indices of abundance, sample data are presented, but indices of abundance are not apportioned by age and sex.

Lengths were measured from mid-orbit to fork of tail in millimeters. Some fall chum salmon samples collected in Yukon Territory by DFO were measured from tip of snout to fork of tail, or from post orbit to hypural plate. These samples are footnoted accordingly in the appropriate tables. Average length, by age and sex, was reported for each sampled fishery and escapement. Length samples were not stratified by sample period.

RESULTS

Commercial and Subsistence Harvest

Commercial harvest (Alaska and Canada combined) totaled 158,761 chinook, 765,622 summer chum, 306,015 fall chum, and 57,672 coho salmon in 1985 (Table 1). The chinook salmon harvest was 22% above that of 1984, summer chum salmon 1% above, fall chum salmon 31% above, and coho salmon 30% below the 1984 level. The chinook, summer chum, and fall chum salmon commercial harvests in the Alaska portion of the drainage in 1985 were 4% above, 15% below, and 11% below the recent 5-year (1980-1984) averages, respectively, while the coho salmon harvest was 1.7 times greater than the recent 5-year average. Fishermen in the Alaska portion of the drainage received an estimated \$7,031,600 for their catch in 1985, down 3% from the previous 5-year average. The largest commercial harvests of chinook, fall chum, and coho salmon occurred in District 1, while District 4 accounted for the largest summer chum salmon harvest. Gill nets accounted for the majority of the harvest for each species. Commercial harvest and catch per unit effort by species and fishing period is presented for each district in Appendix Tables 1-7.

Table 1. Yukon River salmon commercial catch in numbers of fish by district, species, and gear type, 1985.

	Chinoo		- 20 40 40 40 40 40 40 40	Summer Chum ¹			Fall Chum ¹			Coho		
District	GN	FW	Total	GN	FW	Total	GN	FW	Total	GN	FW	Total
1	90,011	0	90,011	247,486	0	247,486	129,948	0	129,948	27,676	0	27,676
2 3	48,365 2,588	0 0	48,365 2,588	188,099 1,792	0 0	188,099 1,792	40,490 5,164	0 0	40,490 5,164	17,125 171	0 0	17,125 171
4A	0	0	0	28,257	199,022	227,279	. 0	0	0	0	0	0
4B 4C	25 4 3 43	64 3	318 346	1,923 565	19,168 10,157	21,091 10,722	3,210 0	12,149 11,618	15,359 11,618	7 0	1 46 785	1 53 7 85
4 Total	597	67	664	30,745	228,347	259,092	3,210	23,767	26,977	7	931	938
5A	0	0	0	0	0	0	0	56 5	565	0	0	0
5 B	631	511	1,142	135	565	700	2,457	6,806	9,263	0	0	0
5 C 5 D	1,086 434	756 0	1,842 434	0	0	0	3,226 2,178	10,106 0	13,332 2,178	0	0	0
5 Total	2,151	1,267	3,418	135	565	700	7,861	17,477	25,338	0	0	0
6A 6B	15 133	0 427	15 560	332 8,480	477 42.794	809 51,274	373 2,777	1,089 31,886	1,462 34,663	124 975	310 8,651	434 9,626
6C	149	418	567	2,042	14,328	16,370	564	5,663	6,227	136	1,566	1,702
6 Total	297	845	1,142	10,854	57,599	68,453	3,714	38,638	42,352	1,235	10,527	11,762
Ak Total	144,009	2,179	146,188	479,111	286,511	765,622	190,387	79,882	270,269	46,214	11,458	57,672
Ca na da	12,573	0	12,573	0	0	0	35,746	0	35,746	0	0	0
Total	156,582	2,179	158,761	479,111	286,511	765,622	226,133	79,882	306,015	46,214	11,458	57,672

Includes "equivalent salmon" converted from roe sales in Districts 4,5, and 6. Conversion factor of 1 pound (0.453 kg) roe equal to one chum salmon was used.

Subsistence harvest (Alaska and Canada combined) totaled 46,199 chinook, 264,828 summer chum, 211,991 fall chum, and 32,514 coho salmon in 1985 (Table 2). The chinook salmon harvest was 5% below that of 1984, summer chum salmon 15% above, fall chum salmon 17% above, and the coho salmon harvest 34% below the 1984 level. The chinook, summer chum, fall chum, and coho salmon subsistence harvests in the Alaska portion of the drainage in 1985 were 3% above, 9% above, 20% above, and 7% above the recent 5-year (1980-1984) averages, respectively. The largest chinook and fall chum salmon subsistence harvests occurred in District 5, the largest summer chum salmon harvest in District 4, and the largest coho salmon harvest in District 6. Fishwheels account for the majority of the summer chum, fall chum, and coho salmon subsistence harvests, while the majority of the chinook salmon are taken by gill net.

Escapement Abundance

Escapement objectives have been established for the major spawning populations of chinook, summer chum, and fall chum salmon for which a sufficient data base exists (ADF&G 1986). These escapement objectives are in most cases based on historical aerial survey indices of abundance, and should be considered preliminary assessments of optimal escapement levels. Peak aerial survey salmon escapement counts for all areas surveyed in the Yukon River drainage in 1985 are shown in Table 3. Daily sonar, weir, and fishpass salmon escapement counts are provided in Appendix Tables 8-12.

Chinook salmon spawn in tributary streams throughout the Yukon River drainage (Figure 3). Favorable weather conditions in the lower and middle portions of the drainage allowed adequate aerial survey coverage of the chinook salmon escapements in 1985. However, survey conditions in the Yukon Territory were the worst encountered during the past six years.

Chinook salmon escapements in the Alaska portion of the drainage were strong in 1985. Chinook salmon goals have been established for five streams in the Alaska portion of the drainage: East (1,100-1,600) and West Fork (700-1,000) Andreafsky, Anvik (300-500), North (500) and South (500) Fork Nulato, Chena (1,000-1,700), and Salcha (1,500-3,500) Rivers. The optimum goal was achieved in all but the Salcha River, in which the minimum goal was achieved. Escapements in the North and South Fork Nulato River were more than two-fold the objective set for each of these streams. Indications of good chinook salmon escapements to the Koyukuk River drainage are reflected by aerial counts made in the Gisasa River (735), Henshaw Creek (393), Middle Fork Koyukuk River (113), and South Fork Koyukuk River (351). The 1985 chinook salmon counts are among the highest ever documented in these streams.

Based on results obtained from key index streams in the Yukon Territory, chinook salmon escapements in that portion of the drainage were most similar to those observed in 1978. The 1978 escapements were the lowest during the past eight years. Peak counts in 1985 were 255 chinook salmon in the Little Salmon River and 866 and 656 chinook salmon in index areas in the Big Salmon and Nisutlin Rivers, respectively. The Whitehorse fishway count was 508 chinook salmon, which includes 98 fish taken for hatchery brood stock. Escapements to the Pelly River and upper Teslin River drainage were also low.

Table 2. Yukon River salmon subsistence catch in numbers of fish by district, species, and gear type, 1985.

District	Chinook 1		Summer Chum ²		Fall Chum ³			Coho 4				
	GN	FW	Total	GN	FW	Total	GN	FW	Total	GN	FW	Total
1 2 3 4 5	3,071 3,468 3,342	0 0 0 - -	3,071 3,468 3,342 7,425 15,090 7,375	24,349 19,795 3,687 24,807 2,700 4,924	0 0 0 140,576 24,296 19,694	24,349 19,795 3,687 165,383 26,996 24,618	13,275 11,544 2,290 2,527 11,713 3,696	0 0 0 22,748 105,412 33,267	13,275 11,544 2,290 25,275 117,125 36,963	3,246 4,834 376 395 810 1,176	0 0 0 3,554 7,288 10,585	3,246 4,834 376 3,949 8,098 11,761
Ak Total		_	39,771	80,262	184,566	264,828	45,045	161,427	206,472	10,837	21,427	32,264
Ca na da	6,428	0	6,428	0	0	0	5,519	0	5,519	250	0	250
Total			46,199	80,262	184,566	264,828	50,564	161,427	211,991	11,087	21,427	32,514

Subsistence catch of chinook salmon not known by gear type in Districts 4, 5, and 6. Lack of reliable information prohibits making reasonable estimates.
Subsistence catch is not known by gear type, but a subjective estimate is that fishwheels

account for 85% of the District 4 summer chum salmon subsistence catch, 90% of the District 5 catch, and 80% of the District 6 catch.

Subsistence catch is not known by gear type, but a subjective estimate is that fishwheels account for 90% of the fall chum salmon subsistence catch in Districts 4, 5, and 6.

Subsistence catch is not known by gear type, but a subjective estimate is that fishwheels account for 90% of the coho salmon subsistence catch in Districts 4, 5, and 6.

Table 3. Salmon spawning escapement estimates obtained by aerial surveys in the Yukon River drainage, 1985^{1} .

Stream (drainage)	Date	Survey rating	Chinook	Summer chum	Fall chum	Coho
Mountain Village Stream	7/20	fair	54	505		
Andreafsky River						
East Fork Sonar Count 2	6/26-7/28			(12,992)		
East Fork Aerial	7/23	fair	1,617	66,146		
West Fork Aerial	7/23	fair	2,248	52,750		
	Subtotal		3,865	118,896		
Atchuelinguk (Chulinak) River	7/25	fair	904	55,022		
Nageethluk River	7/30	fair	56	1,241		
	Subtotal		960	56,263		
Yukon River (Pilot Station)						
Main River Sonar ^{3,4}			(73,848)	(2,391,460)	(259,242)	(117,016)
Bonasila River	7/30	poor	43	1,925		
Stuyahok River	7/30	poor	74	375		
	Subtotal		117	2,300		
Anvik River						
Aerial Counts	7/00	£-3	003	(205 570)		
Mainstem River	7/23 7/23	fair-poor	9 9 3 29	(304,570)		
Beaver Creek Canyon Creek	7/23	good fair	8	(47,700) (7,900)		
Otter Creek	7/23	good	17	(27,175)	••	
Swift River	7/23	good	ó	(33,750)	,	
Yellow River	7/23	poor	4	(5,100)	•	••
Sonar Count 2	7/5-28	poo.		1,080,243	40 40 	••
	Subtotal		1,051	1,080,243	∞ •■	
Rodo River	7/23	good	224	24,576		
Nulato River						
Below Forks	7/31	fair	6	1,449	•	
South Fork	7/23,31	good	1,180	10,494	e	
North Fork	7/23,31	good	1,594	17,895		
	Subtotal		2,780	29,838		
Koyukuk River Drainage	- /					
Gisasa River	7/23	good	735	13,232		
Hogatza River	7/20			41.14.		
Caribou Creek	7/30	good	1	14,494	~-	
Clear Creek	7/30	good		8,072		
	Subtotal		1	22,566		
Kanuti Kilolitna River ⁵	7/26		8			
Henshaw Creek	7/30	good	393	3,724	99 6 0	
South Fork Koyukuk River	7/29,9/25 ^e	good	351	677	954	
Fish Creek	7/29	fair	4	11		
Bonanza Creek	7/29	fair	2	40 49		
Jim River	7/29,9/25 ^e	good	184	265	15	
	Subtotal		541	953	96 9	

Table 3. Salmon spawning escapement estimates obtained by aerial surveys in the Yukon River drainage, 1985¹ (continued).

Stream (drainage)	Date	Survey rating	Chinook	Summer chum	Fall chum	Coho
North Fork Koyukuk River	7/30	good	23	23		
Middle Fork Koyukuk River	7/30	good	113	2		
Total Koyukuk River Drain	age		1,814	40,500	969	
Melozitna River	7/00					
Mainstem Unnamed Tributary	7/23 7/23	poor fair		328 101		
Fox Creek	7/23	fair		388	120 400	
Turnaround Creek	7/23	poor		440	**	
Blacksand Creek Melozi Hot Springs Creek	7/23 7/22	fair fair-poor		800 4,376		
	Subtotal			6,433		
Tozitna River	7/22	good	86	1,030		••
ower Tanana River Drainage						
Kantishna River Drainage Toklat River						
Barton Creek	8/9	poor	128			
Geiger Creek	10/27	fair	***		1,687	42
Sushana River ⁶ Toklat R. (vic Rdhse) ⁶	10/27 10/27	good good			5,118 15,019	· 29 28
	Subtotal		128		21,824	99
Clear Creek	8/9	poor	12	** ***	on 46	
Bearpaw River (mainstem) Moose Creek	8/9 8/9	fair fair	64 14	77 		
	Subtotal		78	77		
Nenana River Drainage						
Lost Slough Seventeen Mile Slough	10/21 8/9,10/21	good good,fair	 57	 50		1,584 2,081
Julius Creek	7/11-8/4		1. 1. 1.	عاد		
Clear Cr Weir Counts ⁷ Wood Creek Weir Counts ^g			444	••	(2,096) ⁸	3,775
	Subtota1		501	50	(2,096) ⁸	7,440
Chena River	8/1	good	2,553	1,005		
Salcha River	8/6	fair	2,035	3,178		
Total Lower Tanana River			5,307	4,310	21,824	7,539
Upper Tanana River Drainage						
Benchmark #735 Slough Delta River	10/26	fair			1,093	
Aerial Counts	10/26	good	w 46	••	(12,225)	
Ground Counts	11/1	good			(16,158)	24
Population Estimate ⁹ South Bank Tanana River	9/27-12/5 10/26	poor			17,276 975	
Blue Creek	10/26	good				26
Bluff Cabin Slough	10/26	good	⇒ ◆		2,655	110
Bluff Cabin Spring Clearwater Lake Outlet Sl	10/26 10/26	good fair			1,372	110
Clearwater Lake outlet 31 Clearwater Lake and Outlet	10/26	fair			19312	750

Table 3. Salmon spawning escapement estimates obtained by aerial surveys in the Yukon River drainage, 1985¹ (continued).

Stream (drainage)	Date	Survey rating	Chinook	Summer chum	Fall chum	Coho
Upper Tanana River Drainage (continued)					- 1111	
Delta Clearwater River 10 Onemile Slough Remmington Estates Spg 6 Goodpaster River	11/12-13 10/26 10/16 8/16	fair poor good fair-poor	 132	 	366 	5,358 79
Total Upper Tanana River			132		23,737	6,347
Total Tanana River			5,439	4,310	45,561	13,886
Dall River ⁵	7/30	fair	••	5		
Hodzana River ⁵	7/30,9/25	good,fair		94	11	
Beaver Creek ⁵	7/29,8/14	good	······· 3	·		
Hadweenzic River ⁵	7/30	fair	•	10		·
Chandalar River ⁵ Between E. & Middle Forks ¹¹ East Fork Below East Fork	8/14 7/30 8/14,9/26	fair fair fair,fair	13 1 49	10 	2,535	
	Subtotal		63	10	2,535	æ =
Christian River ^{5,11}	8/19	good	1	4	co- est	33 43
Porcupine River Drainage						
Black River (mainstem) ⁵ Salmon Fork ⁵ Kevinjik Creek ^{5,1} Tetthajik Creek ⁵ Grayling Fork ⁵	7/30 7/30,8/19 9/26 9/26 7/29	fair poor,fair fair fair good	1 	200 791 80	550 4	40 E0 40 E0 40 E0 40 E0
	Subtotal		1	1,071	554	
Sheenjek River ₂ (aerial) ⁵ Sonar Counts	8/14,9/25 9/2-29	good,poor	45	es es	(14,200) 152,768	
	Subtotal		45		152,768	⇒ €0
Coleen River ^{5,11}	7/29,8/19	poor,good	10	4	438	
Fishing Branch R (weir) 3,14 Aerial 13	9/6-10/20 10/16	good			56,016 (53,812)	
Miner River ¹³	9/17	poor			500	
Total Porcupine River			56	1,075	210,276	
Kandik River	8/19	poor	1		**	
Charlie River	8/19	fair	1	ale ess.	••	
Nation River	8/19	poor	5			

-Continued-

Table 3. Salmon spawning escapement estimates obtained by aerial surveys in the Yukon River drainage, 1985¹ (continued).

tream (drainage)	Date	Survey rating C	hinook	Summer chum	Fall chum	Coho
ukon Territory Streams	<u> </u>					
Chandindu River 13	8/6	good	5			
Klondike River ¹³	8/16	poor	5			
Stewart River						
McQuesten River 1.3	9/6	fair-good	6			
Beaver Creek ^{±3}	9/5	good	43			
Mayo River ¹³	9/5	fair	6			
Mayo River ¹³ Pleasant Creek	9/6	poor	2			
	Subtotal		57			
White River ¹³ Donjek River ¹³	10/21				158	
Doniek River ¹³	10/21				8	
V1 Dd * *	10/21	fair-good			7,538	
Tincup Creek 15	8/26	poor ·	70		´	
Tincup Creek ¹⁵ Koidern River ¹³	10/21	good			1,195	
	Subtotal		70		8,899	
Pelly River						
Big Kalzas River	9/5	poor	22			
Little Maizas River	9/5	poor	2			
Earn River ¹³	8/31	good	102			
Glenlyon River 13	8/31	fair	25	***		
Ross River ¹³	9/7	poor	23			
Hoole River	8/24	poor	23			
	Subtotal		197			~ ~
Tatchun Creek 13,6	8/31	good	190	**		
Nordenskiold River ¹³	8/29	poor	500	est 100		
Little Salmon River 13	8/31	fair	255			
Big Salmon River						
North Big Salmon River 13	8/29	good	76			
Northern Lake Outlet ¹³ Mainstem	8/29	fair	11			
(above S. Big Salmon R.)						
DFO Weir ¹³	8/17-9/9		(456)			
ADF&G Aerial Counts	8/25	poor-good	866			
	Subtotal		953			
Teslin River (mainstem) 13	10/28	fair			356	
Nisutlin River	8/25	fair	656			
Wolf River	8/23-25	fair	226	**	#0 cm	
Swift River ¹³	9/6	роог	100			
Morley River	8/23	poor	11			
Cladve Piver 13	9/6	fair	25			
Jennings River 13	9/6	fair	25			
•	Subtotal		1,043		356	
Takhini River ¹³	9/10	fair	157		45 40	
Whitehorse Fishway						
Counts 13,16	8/9-9/9		508			

Table 3. Salmon spawning escapement estimates obtained by aerial surveys in the Yukon River drainage, 1985¹ (continued).

Stream (drainage)	Date	Survey rating	Chinook	Summer chum	Fall chum	Coho
Yukon Territory Streams (continued)				, , , , , , , , , , , , , , , , , , , ,		
Mainstem Yukon River ¹³						
Vicinity Fort Selkirk- Carmacks ¹⁷	10/18	fair			10,760	
Carmacks-Hootalingua ¹⁸	10/28	poor			143	
Hootalingua-Whitehorse	10/28	poor	•		8	
Population Estimates 13,20			(29,881)		(99,775)	
	Subtotal) od od	10,911	***
Yukon River Drainage Totals			20,460	1,366,092	279,518	13,886

Only peak estimates listed; carcass counts included. Data in parentheses not included in totals or subtotals.

- 17 Largest concentrations noted in vicinity of Ingersol Islands.
- The majority of these fish seen approximately two miles downstream of Claire Creek.
- 19 Fish carcasses seen in vicinity of Hootalingua.
- Tag-recapture Canadian population estimates for Yukon Territory streams excluding the Fishing Branch River.

Bendix side-scan sonar counts.

Biosonics sonar estimates.

Preliminary estimates. An additional 103,153 was attributed to other species (whitefish, burbot, pink salmon, and sheefish).

⁵ Surveys by USFWS.

Foot surveys.

FRED Division counts.

⁸ None allowed to spawn wild.

⁹ Population estimates based upon replicate foot counts.

Boat survey by Sport Fish Division.

¹¹ Summer or fall chums.

¹² Includes Fish Hole Creek.

 $^{^{1\,3}}$ Surveys conducted by Canadian Department of Fisheries and Oceans.

An additional number of chums may have escaped through the weir on three days of high water early in the season.

¹⁵ Partial survey.

¹⁶ Includes 98 taken for hatchery brood stock.

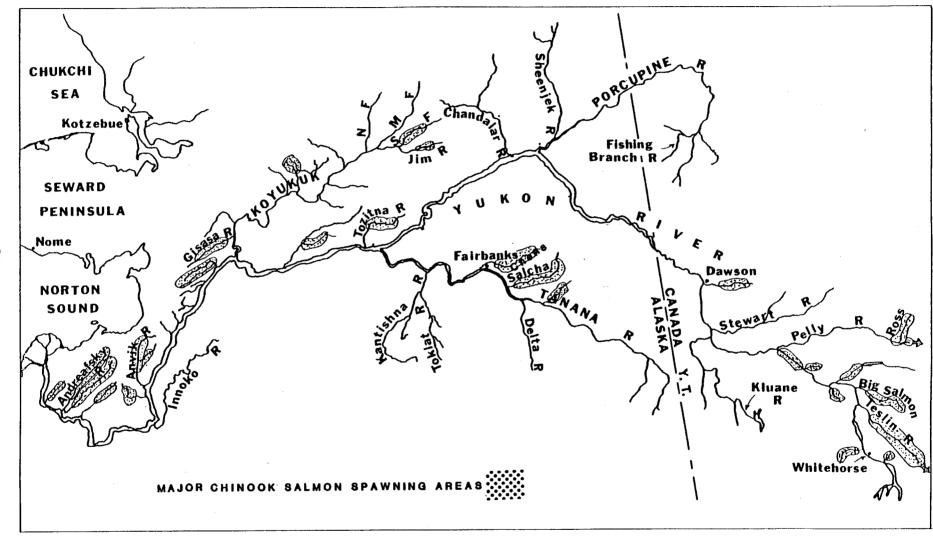


Figure 3. Chinook salmon spawning areas in the Yukon River drainage.

Summer chum salmon spawn primarily in streams tributary to the lower Yukon, Koyukuk, and Tanana Rivers (Figure 4). Summer chum salmon escapements in 1985 appeared slightly below average for most streams. Counts of 66,146 and 52,750 summer chum salmon in the East and West Fork of the Andreafsky River, respectively, each fell approximately 10,000 below minimum escapement objectives. A count of 17,895 summer chum salmon was well below the minimum goal (35,000) for the North Fork Nulato River. Only in the Anvik River and Hogatza River were escapement objectives met. The Anvik River sonar estimate (1,080,243 chum salmon) was more than double the optimum goal for that river, while counts of 14,494 and 8,072 summer chum salmon in Caribou and Clear Creeks, respectively (Hogatza River) exceeded optimum escapement goals. Summer chum salmon escapement to the Tanana River drainage was slightly below average based on aerial surveys of the Salcha River. An estimate of 3,178 summer chum salmon was made for this stream, falling below the escapement objective of 3,500 fish.

Fall chum salmon spawn in spring fed upwelling areas in streams and sloughs in the upper portion of the Yukon River drainage (Figure 5). Fall chum salmon escapements in 1985 showed a marked improvement for most index areas as compared to the preceding five years, particularly in the Porcupine and upper Yukon River drainages. A sonar-estimated escapement of 152,768 fall chum salmon for the Sheenjek River was the largest since sonar operations began in 1981, and was five times greater than sonar-estimated escapements in 1982 and 1984. Fall chum salmon escapement to the Fishing Branch River of 56,016 fish was the largest since 1979, although this was a weir count and earlier estimates were made by aerial survey. A similar increase in chum salmon escapements was apparent to tributaries of the mainstem Yukon River in Yukon Territory. A total of 10.760 fall chum salmon was observed in the mainstem Yukon River between Fort Selkirk and Carmacks while an additional 8,899 were observed in the White River system. Only a slight improvement in fall chum salmon escapements to the Tanana River drainage from those in 1984 was realized in 1985. However, 1985 escapements were much improved from those documented in 1982, the lowest year on record. A total of 21,824 fall chum salmon was documented in the upper Toklat River, while 23,737 were observed in the upper Tanana River drainage. A population estimate of 17,276 fall chum salmon was made for the Delta River based upon replicate foot surveys, which exceeds the escapement objective for this stream. Only 2,655 fall chum salmon were observed in Bluff Cabin Slough, which is below the escapement objective of 5,200 fish.

Coho salmon spawn in widely scattered tributaries throughout the Yukon River drainage, although the major concentrations have been documented in the upper Tanana River drainage (Figure 6). Coho salmon escapement counts are generally obtained ancillary to fall chum salmon escapement survey priorities, and, therefore, a comprehensive data base does not exist. Escapements were about average in magnitude for most areas surveyed in 1985. The Delta Clearwater River is the single most important coho salmon spawning stream, and had an escapement count of 5,358 coho salmon, down from the record count of 11,061 fish in 1984.

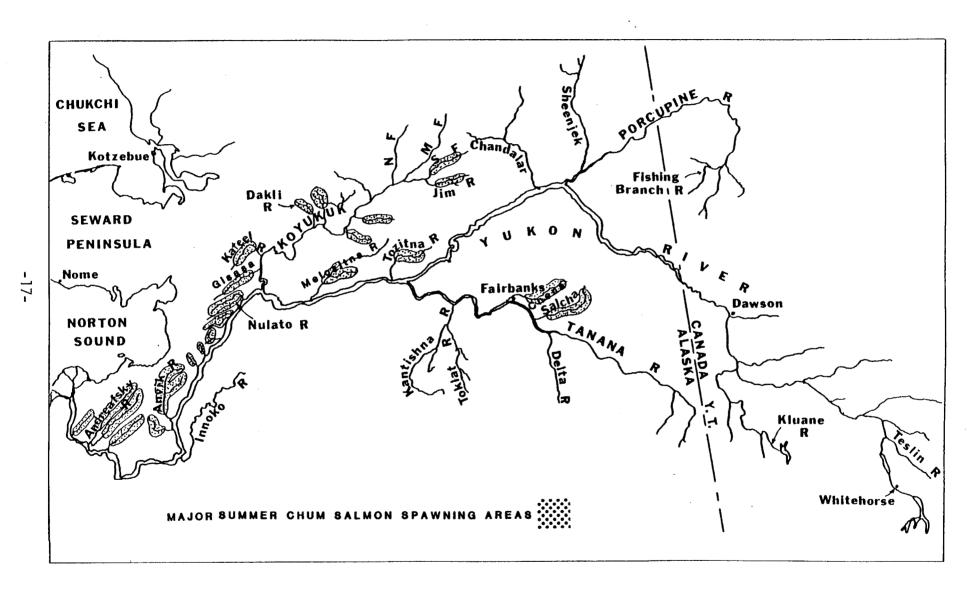


Figure 4. Summer chum salmon spawning areas in the Yukon River drainage.

Figure 5. Fall chum salmon spawning areas in the Yukon River drainage.

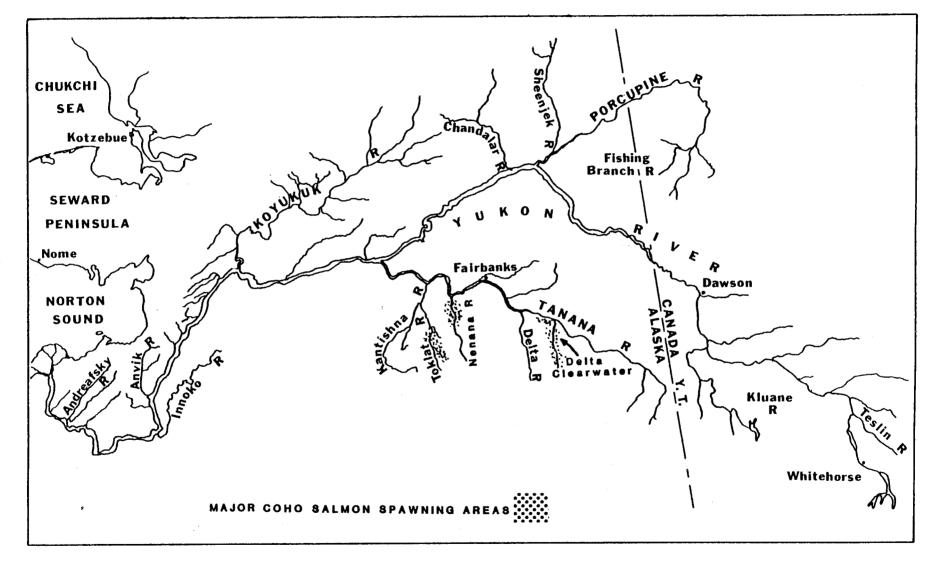


Figure 6. Coho salmon spawning areas in the Yukon River drainage.

Age, Sex, and Length Composition

Age, sex, and length composition of Yukon River salmon catches and escapements in 1985 are presented separately for each species.

Chinook Salmon:

Age 1.4 chinook salmon were the dominant age class in 1985 Yukon River commercial catches (Table 4, Appendix Tables 13-21) as in most of the recent years. District 1 and 2 gillnet catches, which together comprised 68% of the total river harvest, were made up of 76.1% and 69.5% age 1.4 fish, respectively. Age 1.3 chinook salmon were in relative low abundance, constituting 8.8% and 12.0% of the respective District 1 and 2 catches. Age 1.5 fish were in only slightly lower abundance at 8.6% for District 1 and 8.7% for District 2.

There was little change in age structure during the first two sample periods in either District 1 or 2. However, the proportion of older fish decreased markedly while the proportion of younger fish increased for the third sample period in each district (small mesh season). Contribution of age 1.4 fish decreased from approximately 80% for the first sample period in both Districts 1 and 2, to only 54.1% for District 1 and 37.7% for District 2 during the third sample period in each. The contribution of age 1.3 fish in District 1 increased from 6.6% to 20.8%, while it increased from 8.4% to 25.9% in District 2. Likewise, the incidence of age 1.2 fish increased in each district from 2.5% or less during the first two sample periods to 18.8% in District 1 and 33.0% in District 2 during the third sample period.

Subsistence gillnet and fishwheel harvests in Districts 1, 2, 3, 6, and Canada were not sampled. Since these fisheries utilize the same gear types and occur concurrently with the commercial fisheries in these districts, harvests were apportioned by age and sex from the appropriate commercial catch samples (Appendix Tables 22-26). Because of the significant intermixing of commercial and subsistence gillnet and fishwheel catches by fishermen in Districts 4 and 5, estimates for both gear types and fisheries were pooled and assumed to be self-weighting. These pooled estimates for Districts 4 and 5 (Appendix Tables 18 and 19) were similar to those for the other districts, and were comprised predominantly of age 1.4 fish (62.8% and 53.1% for Districts 4 and 5, respectively.

Size of chinook salmon in the District 1 commercial gillnet catch ranged from 597 mm for age 1.2 to 948 mm for age 1.5 males, and from 807 mm for age 1.3 to 940 mm for age 1.5 females (Table 5).

Similar to results from previous years, age 1.4 fish in lower Yukon River escapements (Table 6) were generally in lower abundance (43.6% and 30.3% for the Andreafsky and Anvik Rivers, respectively), and ages 1.3 and 1.2 were in higher abundance (52.4% and 69.7% Andreafsky and Anvik Rivers, respectively) than in lower river commercial catches. Sex compositions for the lower Yukon River escapements were dominated by males (66.8% for the Andreafsky River and 75.8% for the Anvik River).

Table 4. Total utilization of Yukon River chinook salmon by age, sex, and fishery, 1985.

				1982	1981		1980	Brood	Year an			78	1977	
District	Fishery	Dates	Sex	1.1	1.2	0.4	1.3	2.2	1.4	2.3	1.5	2.4	2.5	Total
1	Commercial Gillnet	6/18-8/17	Females Males Combined	0 0 0	21 3,497 3,660	0 0 0	782 7,094 7,877	0 0 0	41,504 26,981 68,485	20 27 118	5,116 2,625 7,740	951 796 1,747	283 0 384	48,677 41,020 90,011
	Subsistence Gillnet ²		Females Males Combined	0 0 0	1 124 125	0 0 0	27 242 269	0 0 0	1,416 921 2,337	2 2 4	174 90 264	32 27 59	13 0 13	1,665 1,406 3,071
2	Commercial Gillnet	6/20-8/19	Females Males Combined	0 0 0	0 3,617 3,617	0 0 20	545 5,267 5,812	0 18 18	16,115 17,493 33,608	0 102 102	2,182 1,970 4,198	575 361 935	55 0 55	19,472 28,828 48,365
	Subsistence Gillnet ³		Females Males Combined	0	0 259 259	0 0 1	39 378 417	0 1 1	1,156 1,254 2,410	0 7 7	158 143 301	41 26 67	4 0 4	1,398 2,068 3,468
3	Commercial Gillnet	6/28-8/14	Females Males Combined	0 0 0	0 41 41	0 0 0	69 208 277	0 0 0	1,012 1,025 2,037	0 16 16	61 81 142	34 34 67	0 0 8	1,176 1,405 2,588
	Subsistence Gillnet ⁴		Females Males Combined	0 0 0	0 53 53	0 0 0	89 268 358	0 0 0	1,307 1,323 2,630	0 20 20	79 105 184	43 43 87	0 0 10	1,518 1,812 3,342
4	5		Females Males Combined	0 0 0	32 793 825	0	275 1,351 1,626	0 0 0	3,033 2,055 5,088	0 32 32	243 243 486	0 32 32	0 0 0	3,583 4,506 8,089
5	5		Females Males Combined	0 0 0	0 1,314 1,314	0	91 4,314 4,405	0 130 130	3,451 6,376 9,827	0 370 370	1,086 691 1,777	137 548 685	0 0 0	4,765 13,743 18,508
6	Commercial ⁶	7/18-8/10	Females Males Combined	0 16 16	0 232 232	0 0 0	49 482 531	0 0 0	182 166 347	0 0 0	16 0 16	0 0 0	0 0 0	247 896 1,142
	Subsistence ⁶	.7	Females Males Combined	0 103 103	0 1,497 1,497	0 0 0	317 3,112 3,429	0 0 0	1,173 1,069 2,242	0 0 0	103 0 103	0 0 0	0 0 0	1,593 5,781 7,375
Yukon Territor	Commercial cy Gillnet	7/14-9/21	Females Males Combined	0 0 0	0 25 25	. 0 0 0	251 1,044 1,295	0 0 0	4,740 3,483 8,223	0 63 63	2,200 390 2,590	176 113 289	63 25 88	7,430 5,143 12,573
	Subsistence ⁸ Gillnet	·	Females Males Combined	0 0 0	0 13 13	0 0 0	129 534 662	0 0 0	2,423 1,781 4,204	0 32 32	1,125 199 1,324	90 58 148	32 13 45	3,799 2,630 6,428
TOTAL HARVEST			Males Females Combine		54 11,465 11,661	0 0 21	2,663 24,294 26,958	0 149 149	77,512 63,927 141,438	22 671 764	12,543 6,537 19,125	2,079 2,038 4,116	450 38 607	95,323 109,238 204,960

 $^{^{}m 1}$ Total for sexes combined greater than sum of individual sexes due to fish being sampled without sex identification.

Age apportionment based on season total District 1 commercial catch samples.

J. .

Age apportionment based on season total district 2 commercial catch samples.

Age apportionment based on District 3 commercial catch samples.

Combined commercial and subsistence, fishwheel and gillnet.

Combined fishwheel and gillnet.

Allocation based on District 6 commercial catch samples.

Age apportionment based on Yukon Territory commercial catch samples.

Table 5. Yukon River chinook salmon commercial and subsistence catch samples, length (mm) by age and sex, 1985.

					1981		1980	Brood	Year and Age Group 1979 1978				1977
District	Fishery	Sex		1.1	1.2	0.4	1.3	2.2	1.4	2.3	1.5	2.4	2.5
1			Std. Err. Samp. Size				807 8.8 3		87 4 4 . 6 298		940 7.5 43	907 16.9 6	900 30.0 2
	(13°2 Om)	Males	Std. Err. Samp. Size				761 13.1 23		848 4.8 182		948 16.9 23	10.6	
	,	Combined ²	Mean Std. Err. Samp. Size		600 21.0 14		750 8.9 = 65		860 2.4 773	0.0	948 6.1 : 93	856 11.2 20	895 27 . 4 5
	Commercial Gillnets 6 in (21.6 cm)		Mean Std. Err. Samp. Size		585 0.0 1		763 20.1 11		860 4.2 160		917 23.9 17	72.5	
	(21.0 Cm)	Males	Mean Std. Err. Samp. Size		573 4.8 102		693 5.6 100		837 6.5 140		20.8	783 19.2 3	
2	Commercial Gillnets 8-1/2 in (15.2 cm)		Mean Std. Err. Samp. Size			*	819 15.2 9		866 2.9 281		919 8.3 41	12.2	945 0.0 1
	(1001 0)	Males	Mean Std. Err. Samp. Size		578 17.7 6		727 15.1 62			695 0.0 1	9.9	811 42.0 5	
	C	Combined ²	Mean Std. Err. Samp. Size		578 17.7 6	855 0.0 1	741 12.7 78		2.1	695 0.0 1	5.8	856 12.2 23	945 0.0 1
	Commercial Gillnets 6 in (21.6 cm)		Std. Err. Samp. Size				791 23.2 4		855 7.1 38		890 20.8 3		
	(22 to only	Males	Mean Std. Err. Samp. Size		568 3.8 114		60	0.0	9.9 42		912 44.7 4		
3	Commercial Gillnets Mesh size unknown		Mean Std. Err. Samp. Size				813 14.8 6		872 4.8 81		893 34.8 3	17.5	
	Was 1446 V 17 44	Males	Mean Std. Err. Samp. Size		602 41.1 3		710 14.1 18		853 7.8	780	17.5	835 35.0 2	
		Combined ²	Mean Std. Err. Samp. Size		599 30.5 5		735 11.8 32			770 10.0 2		834 8.8 8	

-Continued-

Table 5. Yukon River chinook salmon commercial and subsistence catch samples, length (mm) by age and sex, 1985 (continued).

				1982 1981			1980	Brood		and Age		up 978	1977
District	Fishery	Sex		1.1	1.2	0.4	1.3	2.2	1.4	2.3	1.5	2.4	2.5
4	Commercial & Subsistence Gillnets (Mesh size		Mean Std. Err. Samp. Size		590 0.0 1		722 14.1 9		874 6.0 87		959 14.3 8		
	un known)	Males	Mean Std. Err. Samp. Size		533 19.4 7		724 12.4 22		841 9.8 54	7 40 0.0 1	944 25.0 8	980 0.0 1	
	Commercial & Subsistence Fishwheels	Females	Mean Std. Err. Samp. Size						862 11.9 12				
		Males	Mean Std. Err. Samp. Size		537 15.1 19		659 11.5 22		812 26.9 13				
Subs G:	Commercial & Subsistence Gillnets (Mesh size		Mean Std. Err. Samp. Size				795 0.0 1		872 10.2 25		940 9.6 13		
	unknown)	Males	Mean Std. Err. Samp. Size		605 0.0 1		730 40.7 5	,	891 12.7 31	640 0.0 1	910 52.1 7		
	Commercial & Subsistence Fishwheels	Females	Mean Std. Err. Samp. Size				795 0.0 1		862 14.3 17		930 14.3 4	107.5	
,		Males	Mean Std. Err. Samp. Size		551 17.1 15		670 7.3 32	725 75.0 2	9.6	700 15.3 3	994 29.7 4	783 18.5 7	
6	Commercial Fishwheels (Gillnets (Mesh size	-	Mean Std. Err. Samp. Size				718 24.6 3		853 18.3 11		850 0.0 1		
	un known)	Males	Mean Std. Err. Samp. Size	0.0			687 9.3 29		794 15.9 10				
	Commercial y Gillnets (Mesh size	Females	Mean ³ Std. Err. Samp. Size				736 12.5 13		908 3.8 241		989 5.2 112	889 20.1 9	933 11.9 3
	unknown)	Males	Mean ³ Std. Err. Samp. Size		750 0.0 1		762 7.5 53		906 7.0 177	748 25.1 3	1059 24.2 20	851 32.0 6	1071 0.0 1

Length is mid-eye to fork-of-tail, escept where noted. Combined sexes reported for samples which include substantial numbers of fish sampled without sex indentification.

Length reported is tip-of-snout to fork-of-tail.

Table 6. Yukon River chinook salmon escapement carcass samples, age, and sex by spawning area, 1985.

	Aerial	Sample		1981		980	1	 ear and 979	Age Gro	oup 978	1977	
River	Survey Estimate			1.2	1.3		1.4	2.3	1.5	2.4	2.5	Total
Andreafsky	7 3,865	445 ¹	Female Male	0.0 39.6	0.4 12.4	0.0	29.2 14.4	0.0	3.5 0.5	0.0	0.0	33.2 66.8
			Total S.E.	39.6 2.32	12.8 1.59	0.0	43.6 2.35	0.0	4.0 0.93	0.0	0.0	100.0
Anvik	1,051	332	Female Male	0.0 30.3	9.1 30.3	0.0	15.1 15.1	0.0	0.0	0.0	0.0	24.2 75.8
			Total S.E.	30.3 8.12	39.4 8.64	0.0	30.3 8.12	0.0	0.0	0.0	0.0	100.0
Chena	2,553	513	Female Male	0.0 12.1	2.0 19.1	0.0 0.6	44.3 14.9	0.0	6.2 0.8	0.0	0.0	52.5 47.5
			Total S.E.	12.1	21.1 1.80	0.6 0.34	59.2 2.17	0.0	7.0 1.13	0.0	0.0	100.0
Sal cha	2,035	511	Female Male	0.0 12.3	1.4 16.2	0.0	43.3 21.5	0.0	3.3 1.8	0.2	0.0	48.5 51.5
			Total S.E.	12.3 1.45	17.6 1.69	0.0	64.8 2.11	0.0	5.1 0.97	0.2 0.20	0.0	100.0
Big Salmon	n 866	179	Female Male	0.0 1.1	0.0 14.5	0.0	38.9 24.2	0.0	10.6 3.9	2.8 2.8	0.6 0.0	53.1 46.9
			Total S.E.	1.1	14.5 2.64	0.0	63.1 3.62	0.6 0.58	14.5 2.64	5.6 1.72	0.6 0.58	100.0
Little Salmon	255	74	Female Male	0.0	1.4 10.8	0.0	59.0 17.9	0.0 1.4	5.4 0.0	4.1	0.0	· 69.9 30.1
			Total S.E.	0.0	12.2 3.83	0.0	76.9 4.93	1.4 1.38	5.4 2.65	4.1 2.32	0.0	100.0
Nisutlin	656	77	Female Male	0.0 0.0	1.3 3.9	0.0	67.5 13.0	0.0 1.3	3.9 1.3	3.9 2.6	1.3	77.9 22.1
			Total S.E.	0.0	5.2 2.55	0.0	80.5 4.54	1.30	5.2 2.55	6.5 2.83	1.3 1.30	100.0
Tatchun	190 ³	12	Female Male	0.0	0.0 25.0	0.0	16.7 41.7	0.0	8.3 0.0	0.0 8.3	0.0	25.0 75.0
			Total S.E.	0.0	25.0 13.06	0.0	58.4 14.86	0.0	8.3 8.32	8.3 8.32	0.0	100.0
Mainstem Yukon	_4	22	Female Male	0.0	0.0 9.1	0.0	40.9 13.6	0.0	18.2 18.2	0.0	0.0	59.1 40.9
			Total S.E.	0.0	9.1 6.28	0.0	54.5 10.87	0.0	36.4 10.50	0.0	0.0	100.0

Includes 115 East Fork carcass samples, 21 East Fork beach seine samples, and 309 West Fork Carcass samples.

Includes 4 beach seine samples, 4 hook & line samples, 4 gillnet samples, and 21 carcass

samples.

samples.
Foot survey, Department of Fisheries and Oceans, Canada.
Water turbidity precludes surveys in this area.

Also observed in previous years, escapements in the Canadian portion of the drainage tended to be made up of more older fish and more females than escapements in the other regions (Table 6). Age 1.4 was the most abundant age group, averaging about 75% of escapements to the three major upper Yukon River spawning tributaries, the Big Salmon, Little Salmon, and Nisutlin Rivers. As has been the case in recent years, the occurrence of fish with two freshwater annuli was much greater in the upper Yukon River spawning streams than in other regions of the drainage.

Age 1.3 chinook salmon were in generally low abundance in nearly all spawning tributaries of the Yukon River drainage.

Average size of male chinook salmon in Yukon River escapements ranged from 528 mm for age 1.2 fish from both the Andreafsky and Salcha Rivers to 1,008 mm for age 1.5 fish from the mainstem Yukon River in Canada (Table 7). Average size of females ranged from 699 mm for age 1.2 fish from the Salcha River to 949 mm for age 1.5 fish from the Big Salmon River.

Summer Chum Salmon:

Summer chum salmon were sampled from the District I commercial gillnet fishery, and District 4 and 6 commercial fishwheel fisheries in sufficient numbers to permit apportionment of harvest by age and sex. Harvests in Districts 2 and 3 were apportioned by age and sex based on the composition of the District I sample. Commercial gillnet harvests in Districts 4, 5, and 6, and fishwheel harvest in District 5 could not be apportioned because of the lack of appropriate sample data. Subsistence harvest for each district and gear type was apportioned by age and sex using the commercial catch sample for that district and gear type. The number of summer chum salmon harvested by age, sex, and fishery for the entire drainage is presented in Table 8, while age and sex composition for each fishery is presented by sample period in Appendix Tables 28-37. Age, sex, and size composition of samples collected but not used to apportion catches is shown in Appendix Table 38.

Ninety percent (90%) of total drainage summer chum salmon harvest was apportioned by age and sex. Age 0.3 accounted for 69% of total apportioned harvest, followed by ages 0.4 (29%), 0.2 (1.4%), and 0.5 (0.8%). Sex composition was nearly 1:1 between females and males. Age composition was not substantially different between districts or gear types. Females made a stronger contribution to upper river fishwheel catches than males, while the opposite was the case for lower river gillnet catches. Average size by age and sex group did not differ substantially between districts or gear types (Table 9). These results are similar to those of previous years.

A temporal trend in age composition is apparent for the District 1 commercial gillnet fishery. Age 0.4 declined in relative contribution while age 0.3 increased as the season progressed. This trend has been noted for most previous years with sufficient sample data.

The East Fork Andreafsky and Anvik Rivers were the only summer chum salmon escapements sampled in 1985 (Tables 10 and 11). Age 0.3 was predominant, comprising 72% and 75% of the sample at each location, respectively. Sex composition was 58% female for the East Fork Andreafsky River, 56% for the Anvik River.

Table 7. Yukon River chinook salmon escapement carcass samples, length (mm) by age and sex, $1985^{\frac{1}{4}}$.

			1981	19	Brood 80	Year a	and Ag	e Grou	1p 178	1977
River	Sex		1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5
Andreaf sky ²	Females	Mean Std. Err. Samp. Size		755 20.0 2		855 4.8 122		877 9.5 15		
		Mean Std. Err. Samp. Size	528 3.7 166	715 7.7 55		808 10.1 61		928 7.5 2		
Anvik ³	Females	Std. Err. Samp. Size		773 20.3 3		826 21.6 5				
	Males	Mean Std. Err. Samp. Size	565 10.7 10	738 14.4 10		810 28,8 5				
Chena	Females	Mean Std. Err. Samp. Size		717 15.5 9		873 3.5 215		927 8.2 30		
	Males	Mean Std. Err. Samp. Size	557 8.6 61	690 7.0 93	648 18.6 3	836 9.4 172		9 43 40 .5 .4		
Salcha	Females	Mean Std. Err. Samp. Size		699 22.4 7		853 .5.1 206		897 15.5 17	900 0.0 1	
•	Males	Mean Std. Err. Samp. Size	528 7.3 60	686 6.6 70		827 8.3 106		982 17.7 9		
Big Salmon		Std. Err. Samp. Size				67		19	836 20.4 5	
	Males	Mean Std. Err. Samp. Size	608 42.5 2	665 11.8 25		775 11.1 43	720 0.0 1	978 17.5 7	810 36.7 5	
Little Salmon	Females	Mean Std. Err. Samp. Size				829 7.8 43		923 27.2 4	857 14.5 3	
	Males	Mean Std. Err. Samp. Size		676 12.4 8		845 22.6 13	660 0.0 1			
Nisutlin	Females	Mean Std. Err. Samp. Size		865 0.0 1		835 5.9 51		860 17.3 3	830 30.6 3	910 0.0 1
	Males	Mean Std. Err. Samp. Size		698 19.2 3		837 23.4 10	0.0	770 0.0 1	915 115.0 2	
Tatchun	Females	Mean Std. Err. Samp. Size				843 12.5 2		905 0.0 1		
. •	Males	Mean Std. Err. Samp. Size		638 7.5 2		811 42.6 4			690 0.0 1	
Mainstem Yukon	Females	Mean Std. Err. Samp. Size				879 8.3 8		945 33.3 3		
	Males	Mean Std. Err. Samp. Size		688 7.5 2		890 90.2 3		1008 17.0 4		

Length is mid-eye to fork-of-tail.
Includes 14 East Fork beach seine samples, 119 East Fork carcass samples, and 290 West Fork carcass samples.
Includes 4 beach seine samples, 4 gillnet samples, 4 hook and line samples, and 21 carcass samples.

Table 8. Total utilization of Yukon River summer chum salmon by age, sex, and fishery, 1985.

				1982	Brood Year 1981	and Age 1980	Group 1979	
Distric		Sample Size	Sex	0.2	0.3	0.4	0.5	Total
1	Commercial Gillnet	1,637	Female Male Total	782 364 1,146	80,467 89,661 170,128	42,102	1,120	114,239 133,247 247,486
1	Subsistence Gillnet	0	Female Male Total	73 49 122	7,913 8,815 16,728	3,214 4,139 7,353	49 97 146	11,249 13,100 24,349
2	Commercial Gillnet	0	Female Male Total	56 4 376 940	61,132 68,093 129,225	24,829 31,977 56,806	376 752 1,128	86,901 101,198 188,099
2	Subsistence Gillnet	0	Female Male Total	59 40 99	6,433 7,166 13,599	2,613 3,365 5,978	40 79 119	9,145 10,650 19,795
3	Commercial Gillnet	0	Female Male Total	4 0 4	398 725 1,123	265 380 645	9 11 20	676 1,116 1,792
3	Subsistence Gillnet	0	Female Male Total	11 7 18	•	487 627 1,114	7 15 22	
4	Commercial Fishwheel	402	Female Male Total	4,567 1,142 5,709	64,166	32,882 35,394 68,276	457 1,598 2,055	126,047 102,300 228,347
4	Subsistence Fishwheel	0	Female Male Total	2,811 703 3,514	39,502	20,243 21,649 41,892	281 1,125 1,406	77,597 62,979 140,576
6	Commercial Fishwheel	433	Female Male Total	691 115 806	34,329 10,368 44,697	7,603 3,571 11,174	807 115 922	43,430 14,169 57,599
6	Subsistence Fishwheel		Female Male Total	235 40 275	3,545		276 39 315	
TOTAL H	ARV EST		Female Male Total	9,797 2,836 12,633	346,011 293,376 639,387	127,264 144,425 271,689	4,951	

¹ Total drainage harvest by age and sex does not include the following fisheries and catches due to lack of appropriate sample data:

District 4	Commercial Gillnet	30,745
District 4	Subsistence Gillnet	24,807
District 5	Commercial Gillnet	135
District 5	Subsistence Gillnet	2,700
District 5	Commercial Fishwheel	565
District 5	Subsistence Fishwheel	24,296
District 6	Commercial Gillnet	10,854
District 6	Subsistence Gillnet	4,924

Total Unapportioned Harvest 99,026

Table 9. Length (mm) of Yukon River summer chum salmon commercial catch samples, by age and sex, 1985¹.

			 D			
			1982	Year an	1980	1979
Fishery	Sex		0.2	0.3	0.4	0.5
District 1 8-1/2 in Gillnet (21.6 cm)	Female	Mean Std Error Sample Size	555 0.0 1	565 1.9 145	577 2.2 95	585 14.4 3
	Male	Mean Std Error Sample Size	- - 0	588 1.6 266	611 2.6 139	590 10.8 4
District 1 6 in Gillnet (15.2 cm)	Female	Mean Std Error Sample Size	538 17.4 3	569 1.4 374	582 2.4 116	600 0.0 1
	Male	Mean Std Error Sample Size	573 16.7 3	585 1.6 347	598 2.8 126	572 33.5 3
District 4 Fishwheel	Female	Mean Std Error Sample Size	568 15.7 8	563 2.3 155	582 3.4 58	580 0.0 1
	Male	Mean Std Error Sample Size	588 12.5 2	594 3.0 111	623 4.0 62	623 3.3 3
District 6 Fishwheel	Female	Mean Std Error Sample Size	562 17.0 5	565 1.4 258	571 3.8 57	594 14.9 6
	Male	Mean Std Error Sample Size	625 0.0 1	589 3.2 78	606 6.3 27	645 0.0 1

¹ Length measured from mid-orbit to fork of tail.

Table 10. East Fork Andreafsky River summer chum salmon escapement sample by age, sex, and length (mm), 1985¹.

		1982	rood Year 1981	and Age 0	1979	
		0.2	0.3	0.4	0.5	Total
Femal e	Samp Size Percent	8 1.4	235 41.5	86 15.2	0.0	329 58.1
	Length Std Error	506 10.3	519 1.6	530 3.1	-	
Male	Samp Size Percent	3 0.5	172 30.4	61 10.8	0.2	237 41.9
	Length Std Error	548 14.5	562 2.2	578 4.0	575 0.0	
Total	Samp Size Percent	11 1.9	407 71.9	147 26.0	0.2	566 100.0

 $^{^{1}}$ Samples collected by beach seine and carcass survey, 7/11 to 8/09. Length measured from mid-orbit to fork of tail.

Table 11. Anvik River summer chum salmon escapement by age, sex, and length (mm), 1985^{1} .

		1982	Brood Yea	r and Age 1980	1979	
		0.2	0.3	0.4	0.5	Total
Female	Number Per cent	22,685 2.1	461,264 42.7	118,827 11.0	0.0	602,776 55.8
	Length Std Error Samp Size	541 6.9 11	548 1.4 225	561 3.2 58	- - 0	294
Male	Number Percent	0.0	352,159 32.6	120,987 11.2	4,321 0.4	477,467 44.2
	Length Std Error Samp Size	- 0	580 2.0 172	603 3.9 59	595 5.0 2	233
Total	Number Percent Std Error	22,685 2.1 6,754	813,423 75.3 20,313	239,814 22.2 19,575	4,321 0.4 2,973	1,080,243

Escapement abundance estimated by side scanning sonar, 7/05-7/28. Samples collected by beach seine, 7/05-7/28. Length measured from mid-orbit to fork of tail.

Fall Chum Salmon:

Fall chum salmon were sampled from District 1 and Yukon Territory commercial gillnet fisheries, and District 4 and 6 commercial fishwheel fisheries in sufficient numbers to permit apportionment of harvest by age and sex. Harvests in Districts 2 and 3 were apportioned by age and sex based on the composition of the District 1 sample. Commercial gillnet harvests in Districts 4, 5, and 6, and fishwheel harvest in District 5 could not be apportioned because of the lack of appropriate sample data. Subsistence harvest for each district and gear type was apportioned by age and sex using the commercial catch sample for that district and gear type. The number of fall chum salmon harvested by age, sex, and fishery for the entire drainage is presented in Table 12, while age and sex composition for each fishery is presented by sample period in Appendix Tables 39-51. Age, sex, and size composition of samples collected but used to apportion catches is shown in Appendix Table 52.

Seventy percent (70%) of the total drainage fall chum salmon harvest was apportioned by age and sex. Age 0.3 accounted for 83% of total apportioned harvest, followed by ages 0.4 (11%), 0.2 (5%), and 0.5 (0.4%). Sex composition was 1.2:1 in favor of females. Strength of the 0.3 age class in 1985 was intermediate between that of the 1984 (56%) and 1983 (91%) harvest compositions. Sex composition of total drainage harvest was similar to that found in previous years. Average size by age and sex group did not vary substantially between districts or gear types (Table 13).

A temporal trend in age composition is apparent for the District 1 commercial gillnet fishery. Age 0.4 declined in relative contribution while age 0.3 increased as the season progressed. This trend has been noted for most previous years with sufficient sample data, and was also evident for the District 1 summer chum salmon harvest composition this year.

Samples collected from test fishing fishwheels operated by ADF&G on the north and south bank of the Yukon River in Subdistricts 4B and 4C once again indicate a distinct difference in age composition between stocks on the two banks (Appendix Table 52). This is further supported by the age composition of commercial fishwheel catch samples collected on the north and south bank (Appendix Tables 42 and 43). Age 0.3 is predominant for all samples, but age 0.4 is stronger than 0.2 on the north bank while 0.2 is stronger than 0.4 on the south bank. The north bank test fishing sample was 23% age 0.4 and 1% age 0.2, while the south bank sample was 9% age 0.4 and 20% age 0.2. A tagging study conducted from 1976 to 1978 indicated that there was a significant difference in bank orientation between fall chum salmon stocks in District 4 (Buklis 1981). Fall chum salmon bound for the Porcupine and upper Yukon (Canadian) spawning areas migrated predominantly along the north bank, while those bound for the Tanana drainage migrated predominantly along the south bank of the Yukon River. differences in age compositions, which are consistent on an annual basis, appear to support these findings.

Escapement samples were collected from the Sheenjek, Toklat, and Delta Rivers in the Alaska portion of the drainage by ADF&G, and from the Fishing Branch, mainstem Yukon, Kluane, Koidern, and Teslin Rivers in Yukon Territory by DFO (Tables 14 and 15). Age 0.3 was predominant, accounting for between 76% and

Table 12. Total utilization of Yukon River fall chum salmon by age, sex, and fishery, 1985.

		Cample		1982		Year and 1980	Age Group 1979	1978	
istrict	Fishery	Size	Sex	0.2	0.3	0.4		0.6	Total
1				492	65,293	6,605	376 376 752	0	72,766
	Gillnet		Male	520	46,213	10,073	376 752	0	57,182
			Total	1,012	111,500	10,0/8	752	U	123,340
1	Subsistence Gillnet	0	Female	50	6,670	675	38	0	7,433
	Gillnet		Male	53	4,721	1,030	38	0	5,842
			Total	103	11,391	1,705	76	U	13,2/5
2	Commercial	0	Female	153	20,345	2,058	117 117 23 4	0	22,673
•	Gillnet		Male	162	14,399	3,139	117	0	17,817
•		•	Total	315	34,744	5,197	23 4	0	40,490
2	Subsistence	0	Female	44	5,800	5 87	33 33 66	0	6,464 5,080
	Gillnet		Male	46	4,106	895	33	0	5,080
			Total	901	9,906	1,482	66.	0;	11,544
3	Commercial	0	Female	20	2,595	26 2	15	0	2,892
	Gillnet		Male	20	1,836	401	15 15 30	0 -	2,272 5,164
•			Total	40	4,431	663	30	0	5,164
3	Subsistence	0	Female	9	1.150	116	7	0	1,282
	Gillnet		Male	9	814	178	7	Ō	1,282 1,008
			Total	18	1,964	294	7 7 14	0	2,290
4	Commercial Fishwheel	462	Female	1,580	10,764	638	0	. 0	12,982
	Fishwheel		Male	1,290	8,275	1,122	49		10,785
			Total	2,870	19,039	1,760	49	49	23,767
4	Subsistence Fishwheel	0	Female	1,410	10,351	637	0	0	12,398
	Fishwheel	•	Male	1,183	7,985	1,092	45	45	10,350
			Total	2,593	18,336	1,729	45	45	22,748
6	Commercial	201	Female	3,245	18,276	773	0 0	0	22,294
	Fishwheel		Male Total	2,705	12,673	966	0	0	16,344
			Total	5,950	30,949	1,739	. 0	0	38,638
6	Subsistence	0	Female	2,794	15,735	665	0 0 0	0	19,194
	Fishwheel	•	Male	2,329	10,912	83 2	0	0	14,073
			Total	5,123	26,647	1,497	0	0	33,267
Canada	Commercial	1,000	Female	501	15,049 13,870 28,919	2,109	0	0	17,659
	Gillnet		Male	1 07	13,870	4,039	71	0	18,087
			Total	608	28,919	6,148	71	0	35,746
Canada		0	Female	77	2,323 2,141 4,464	3 26 6 2 4	0 11	0	2,726 2,793
	Gillnet		Male	17	2,141	624	11	0	2,793
						950	11		5,519
TOTAL HA	RVEST		Female	10,375	174,351	15,451	586 762 1,348	0	200,763
			Male	8,441	127,945	24,391	762	94	161,633
	,		Total	18,816	302,296	39,842	1,348	94	362,396

Total drainage harvest by age and sex does not include the following fisheries and catches due to lack of appropriate sample data:

res and car	cues age to rack or ab	brobitare samb
District 4	Commercial Gillnet	3,210
District 4	Subsistence Gillnet	2,527
District 5	Commercial Gillnet	7,861
District 5	Subsistence Gillnet	11,713
District 5	Commercial Fishwheel	17,477
District 5	Subsistence Fishwheel	105,412
District 6	Commercial Gillnet	3,714
District 6	Subsistence Gillnet	3,696

Total Unapportioned Harvest 155,610

Table 13. Length (mm) of Yukon River fall chum salmon commercial catch samples, by age and sex, 1985¹.

			•				
			1982	Brood 1981	Year and	Age Gr 1979	oup 1978
Fishery	Sex		0.2	0.3	0.4	0.5	0.6
District 1 6 in Gillnet (15.2 cm)	Female	Mean Std Error Sample Size	56.8 15.9 4	586 1.0 539	5 9 1 3 • 4 7 3	602 10.1 3	 - 0
	Male	Mean Std Error Sample Size	603 9.8 5	603 1.4 407	621 2.8 103	627 15.9 3	- 0
District 4B Fishwheel	Female	Mean Std Error Sample Size	592 11.1 6	602 2.8 120	604 10.9 11	- 0	_ _ 0
	Male	Mean Std Error Sample Size	628 8.1 6	629 2.6 97	656 11.0 14	760 0.0 1	695 0.0 1
District 4C Fishwheel	Female	Mean Std Error Sample Size	578 5.6 23	5 90 2.7 87	595 25.0 2	- - 0	_ _ 0
	Male	Mean Std Error Sample Size	579 8.5 15	608 5.3 63	623 9.4 8	- 0	- - 0
District 6 Fishwheel	Female	Mean Std Error Sample Size	590 7.7 17	596 3.0 95	600 7.9 4	- - 0	_ _ 0
	Male	Mean Std Error Sample Size	615 7.4 14	615 3.8 66	611 8.0 5	- - 0	_ _ 0
Yukon Territory 6 in Gillnet (15.2 cm)	Female	Mean Sample Size	620 14	644 421	660 59	0	0
	Male	Mean Sample Size	625 3	680 388	700 113	690 2	0

Length measured from mid-orbit to fork of tail, except for Yukon Territory samples, which were measured from tip of snout to fork of tail.

Table 14. Age and sex composition of Yukon River fall chum salmon escapement samples, by spawning area, 1985¹.

logation and	Escape-	Cam -1 -			1982	Year and 1981	19 80	Ī979	
Location and Estimation Method	Estimate	Sample Size	Sex		0.2	0.3	0.4	0.5	Total
Sheenjek River Sonar	152,768	508	Female	Percent of Sample Number in Escapement	1.0	37.0	3.1	0.0	41.1 62,788
			Male	Percent of Sample Number in Escapement			3.0 4,583	0.0	58.9 89,980
				Percent of Sample Number in Escapement Standard Error	739	92.7 141,616 1,765	9,319 1,624	0	100.0 152,768
				Percent of Sample Number in Escapement	1.3	51.1	4.5	0.0	56.9
			Male	Percent of Sample Number in Escapement		38.6 21,622	4.5 2,521	0.0	43.1 24,143
				Percent of Sample Number in Escapement Standard Error	300	80 2	75 4	0.0	100.0 56,016
Toklat River Peak Foot Survey	21,824	56 4	Pemale	Percent of Sample	10.3	46.2	5.5		62.0
reak foot survey			Male	Percent of Sample	3.9	30.5	3.2	0.4	38.0
				Percent of Sample Standard Error	14.2	76.7 1.8	1.2	0.4	100.0
Delta River Expanded Multiple	17,276			Percent of Sample Number in Escapement	9.3 1,607	47.1	4.7	0.0	61.1 10,556
Foot Surv e ys			Male	Percent of Sample Number in Escapement		29.3 5,062		0.4	38.9 6,720
				Percent of Sample Number in Escapement Standard Error	377		8.9 1,538 306	0.4 69 68	100.0 17,276
	10,760		Female	Percent of Sample		68.9	9.7	0.0	78.6
Ft Selkirk-Carmacks Peak Aerial Survey			Male	Percent of Sample	0.0	19.3	2.1	0.0	21.4
************				Percent of Sample Standard Error	0.0	88.2 2.7		0.0	100.0
	7,538			Percent of Sample				0.0	68.7
reak herrat Survey			Male	Percent of Sample	0.4	27.2	3.7	0.0	31.3
			Combined	Percent of Sample Standard Error	3.8	89.1 1.9	7.1 1.6	0.0	100.0
Koidern River	1,195			Percent of Sample	4.3	46.7	1.1	0.0	52.1
Peak Aerial Survey			Male	Percent of Sample	3.3	41.3	3.3	0.0	47.9
			Combined	Percent of Sample Standard Error	7.6 2.8	88.0 3.4	4.4 2.1	0.0	100.0
Teslin River	356	86	Female	Percent of Sample	1.2	43.0	5.8	0.0	50.0
Peak Aerial Survey			Male	Percent of Sample	1.2	32.5	16.3	0.0	50.0
			Combined	Percent of Sample Standard Error	2.4 1.7	75.5 4.7	22.1 4.5	0.0	100.0

All samples collected by carcass survey, except for Sheenjek River (beach seine) and Fishing Branch River (live sampled at weir). Those spawning areas with total season population estimates are apportioned by age and sex, while only the sample composition is presented for those areas with indices of relative abundance.

Table 15. Length (mm) of Yukon River fall chum salmon escapement samples, by spawning area, 1985¹.

			Brood	Year ar		Croup
			1982	1981	1980	
Location	Sex		0.2	0.3	0.4	0.5
Sheenjek River	Female	Mean	568		613	-
		Std Error Sample Size	5	2.0 188	4.5 16	_
	Male	Mean	570	619	654	-
		Std Error Sample Size	0.0	619 1.7 283		_ 0
Fishing Branch R	Female					
radiang brands k	1 CM GL C	Std Error	4.6	518 1.6 229	5.5	
		Sample Size				
	Male	Std Error	-		6.6	-
		Sample Size		173		0
Toklat River	Pemale	Mean		565 1.6		-
		Std Error Sample Size	58	261		0
	Male	Mean	590			
		Std Error Sample Size	8.5 22	2.5 172	6.8 18	32.5 2
Delta River	Female	Mean				
DG2 GG 1137 G2	I CIII CI	Std Error	7.2	2.5	8.7	-
		Sample Size				0
	Male	Mean Std Error	611 8.1	609 3.4	636 5.7	590 0.0
		Sample Size	13	75	11	1
Mainstem Yukon R Ft Selkirk-Carmacks	Female	Mean Std Error	=	5 5 6	582 5.2	_
rt Serkirk-Carmacks		Sample Size	0	2.5 100	14	0
	Male	Mean	-	580	623	-
	,	Std Error Sample Size	- 0	4.8 28	13.7 3	_ 0
Kluane River	Female				591	
WI WAITE WIVEL	1 cm al c	Std Error	9.6	1.6	12.9	-
		Sample Size	9			U
	Male	Mean Std Error	550 0.0	585 3.3	621 6.7	_
		Sample Size	1	73	10	0
Koidern River	Female	Mean Std Error	497	489 3.2	518	=
		Sample Size	4	43	1	0
	Male			514		-
		Std Error Sample Size	4.7	4.5 38		0
Teslin River	Female			494	510	
		Mean Std Error Sample Size	0.0	4.4	10.5	_ 0
				.	500	_
	Male	Mean Std Error	513 0.0	523 5.3 28	528 6.6	-
		Sample Size	1	28 	14	0

All samples collected by carcass survey, except for Sheenjek River (beach seine) and Fishing Branch River (live sampled at weir). Length measured from mid-orbit to fork of tail for all samples except those from the Fishing Branch, Koidern, and Teslin Rivers, which were measured from post-orbit to hypural plate.

93% of the total sample for each of these spawning areas. The relative contribution of ages 0.2 and 0.4 for the escapement samples support the differential age compositions previously described for north and south bank stocks in District 4 catches. Porcupine and upper Yukon River escapement samples had more age 0.4 fish and fewer age 0.2, similar to catch samples along the north bank of the Yukon River in District 4. Conversely, Tanana drainage escapement samples had a stronger 0.2 component and fewer age 0.4 fish, similar to catch samples along the south bank of the Yukon River in District 4. Sex composition was variable, ranging from 41% female for the Sheenjek River to 79% female for the mainstem Yukon River. Size compositions are not directly comparable for all spawning areas due to differing methods of measuring length. Size composition was similar for those samples measured in the same way.

Coho Salmon:

Coho salmon were sampled from the District 1 commercial gillnet fishery in sufficient numbers to permit apportionment of harvest by age and sex. Harvests in Districts 2 and 3 were apportioned by age and sex based on the composition of the District 1 sample. Commercial gillnet and fishwheel harvests in Districts 4, 5, and 6 could not be apportioned because of the lack of appropriate sample data. Subsistence harvest for each district was apportioned by age and sex using the commercial catch sample for that district. The number of coho salmon harvested by age, sex, and fishery for the entire drainage is presented in Table 16, while age and sex composition for each fishery is presented by sample period in Appendix Tables 53-58. Age, sex, and size composition of samples collected but not used to apportion catches is shown in Appendix Table 59.

Fifty-nine percent (59%) of total drainage coho salmon harvest was apportioned by age and sex. Age 2.1 accounted for 76% of total apportioned harvest, followed by ages 1.1 (14%), and 3.1 (10%). Sex composition was approximately 1.5:1 in favor of males. Average size by age class was similar between sexes for the commercial gillnet catch sample (Table 17).

A coho salmon escapement sample was collected from the Delta Clearwater River for the second consecutive year. Once again, age 2.1 predominated, accounting for 88% of the sample (Table 18). Males outnumbered females by 1.6:1, similar to the sex ratio of the commercial catch sample.

ACKNOWLEDGMENTS

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Table 16. Total utilization of Yukon River coho salmon by age, sex, and fishery, 1985.

		Sample		1982	Brood Year 1981	and Age 1980	Group
District	Fishery	Size	Sex	1.1	2.1	3.1	Total
1	Commercial Gillnet	462	Female Male Total	1,943 1,965 3,908	7,999 13,118 21,117	1,339 1,312 2,651	11,281 16,395 27,676
1	Subsistence Gillnet	0	Female Male Total	228 230 458	938 1,539 2,477	157 154 311	1,323 1,923 3,246
2	Commercial Gillnet	0	Female Male Total	1,202 1,216 2,418	4,940 8,117 13,057	838 812 1,650	6,980 10,145 17,125
2	Subsistence Gillnet	0	Female Male Total	339 344 683	1,397 2,291 3,688	235 228 463	1,971 2,863 4,834
3	Commercial Gillnet	0	Female Male Total	12 12 24	50 81 131	8 8 16	70 101 171
3	Subsistence Gillnet	0	Female Male Total	26 27 53	109 178 287	18 18 36	153 223 376
TOTAL HA	RV EST		Female Male Total	3,750 3,794 7,544	15,433 25,324 40,757	2,595 2,532 5,127	21,778 31,650 53,428 ¹

Total drainage harvest by age and sex does not include the following fisheries and catches due to lack of appropriate sample data:

District	4	Commercial Gillnet	7
District	4	Subsistence Gillnet	395
District	4	Commercial Fishwheel	931
		Subsistence Fishwheel	3,554
District	5	Subsistence Gillnet	810
District	5	Subsistence Fishwheel	7,288
District	6	Commercial Gillnet	1,235
District	6	Subsistence Gillnet	1,176
District	6	Commercial Fishwheel	10,527
District	6	Subsistence Fishwheel	10,585
Yukon Ter	rri	itory Subsistence Gillnet	250

Total Unapportioned Harvest 36,758

Table 17. Length (mm) of Yukon River coho salmon commercial catch samples, by age and sex, 1985¹.

			Brood Year 1982	and A	ge Group 1980
Fi shery	Sex		1.1	2.1	3.1
District 1 6 in Gillnet (15.2 cm)	Female	Mean Std Error Sample Size	594 6.2 27	585 2.3 137	578 6.5 26
	Male	Mean Std Error Sample Size	596 6.5 28	582 2.5 218	591 8.0 26

¹ Length measured from mid-orbit to fork of tail.

Table 18. Delta Clearwater River coho salmon escapement sample by age, sex, and length (mm), 1985^1 .

		Brood 1982	Year and 1981	Age Group 1980	
		1.1	2.1	3.1	Total
Female	Samp Size Percent	4 1.3	101 33.8	11 3.7	116 38.8
	Length Std Error	596 15.6	573 3.7	57 4 6 • 3	
Male	Samp Size Percent	5 1.7	163 54.5	15 5.0	183 61.2
	Length Std Error	580 13.3	567 3.7	57 2 11.6	
Total	Samp Size Percent	9 3.0	264 88.3	· 26 8.7	299 100.0

Samples collected by carcass survey, 11/13-11/18. Length measured from mid-orbit to fork of tail.

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APPENDICES

Appendix Table 1. Yukon River District 1 salmon commercial catch by period, 19851.

			Chin	ook	Summer	Ch um	Fall	Ch um	Co	ho
Period Dates	Hours	No. of Fishermen	Fi sh	CPUE	Fi sh	CPUE	Fi sh	CPUE	Fish	CPUE
6/24-6/25 ²	24	389	23,593	2.53	34,051	3.65				
6/27-6/28	24	390	33,689	3.60	30,101	3.22				
7/01-7/02	24	395	18,824	1.99	20,528	2.17				
7/04-7/05 ³	24	3 23	5,014	0.65	57,241	7.38				
7/08-7/09	24	361	5,439	0.63	86,347	9.97				
7/11-7/12,	24	302	1,965	0.27	18,450	2.55			1	0.00
7/15-7/16	24	179	803	0.19	768	3.12	5,147	1.60	1	0.00
7/18-7/19	24	181	610	0.14			6,269	1.44	1	0.00
8/01-8/02	24	175	32	0.01			2,222	0.53	1,147	0.27
8/05-8/06	24	169	14	0.00			15,203	3.75	4,386	1.08
8/08-8/09	24	263	16	0.00			35,770	5.67	9,619	1.52
8/12-8/13	24	268	12	0.00			65,337	10.16	12,521	1.95
Total			90,0115		247,486		129,948		27,676	

 $^{^{} ext{1}}$ All fish taken with set or drift gill net. CPUE is number of fish per fisherman per hour.

² Chinook salmon season (unrestricted mesh size) through 7/2.

³ Summer chum salmon season (6 in [15.2 cm] maximum mesh size) through 7/15.

⁴ Fall chum salmon season (6 in [15.2 cm] maximum mesh size) from 7/16 through 8/13.

⁵ Chinook harvest was 76,106 fish during unrestricted mesh season (6/24-7/2), and 13,905 fish during small mesh season (7/4-8/13).

Appendix Table 2. Yukon River District 2 salmon commercial catch by period, 19851.

Period		No. of	Chin	ook	Summer	Ch um	Fall	Ch um	Co	ho
Dates	Hours	Fishermen	Fish	CPUE	Fi sh	CPUE	Fish	CPUE	Fi sh	CPUE
6/26-6/27 ²	24	205	6,977	1.42	24,401	4.96				
6/30-7/01	24	209	18,298	3.65	34,518	6.88	•			
7/03-7/04	24	204	12,919	2.64	26,746	5.46				
7/02 3	6	159	1,557	1.63	39,997	41.93				
7/07-7/08	24	162	3,052	0.78	25,497	6.56				
/10-7/11	24	150	2,935	0.82	26,399	7.33				
/14-7/15	24	128	1,955	0.64	7,968	2.59				
/17-7/18 //21-7/22	24	62	401	0.27	2,573	1.73				
/21-7/22	24	56	205	0.15	•		2,738	2.04		
8/04	12	122	42	0.03			7,392	5.05	763	0.52
8/07	12	61	10	0.01			1,546	2.11	40 5	0.55
8/11	12	194	13	0.01			19,395	8.33	6,390	2.74
8/22	6	179	1	0.00			9,419	8.77	9,567	8.91
Total			48,365 ⁵		188,099		40,490		17,125	

¹ All fish taken with set or drift gillnet. CPUE is number of fish per fisherman per hour.

² Chinook salmon season (unrestricted mesh size) through 7/4.

³ Summer chum salmon season (6 in [15.2 cm] maximum mesh size) through 7/18.

Fall chum salmon season (6 in [15.2 cm] maximum mesh size) through 8/22.

⁵ Chinook harvest was 38,194 fish during unrestricted mesh season (6/26 - 7/4), and 10,171 fish during small mesh season (7/2 and 7/7-8/22).

Appendix Table 3. Yukon River District 3 salmon commercial catch by period, 19851.

Period		No. of	Chin	ook	Summer	Chum	Fall	Ch um	Co	ho
Dates	Hours	Fishermen	Fi sh	CPUE	Fi sh	CPUE	Fi sh	CPUE	Fi sh	CPUE
$7/01-7/02^2$	24	,17	1,378	3.38	1,526	3.74				
7/04-7/05	24	12	1,205	4.18	266	0.92				
7/15-7/16 ³	24	0	. 0	0.00	0	0.00	•			
8/05-8/064	24	12	, 4	0.01			3,321	11.53	23	0.08
8/08-8/09	24	0	0	0.00			0	0.00	0	0.00
8/12-8/13	24	11	1	0.00			1,843	6.98	148	0.56
Total			2,5885		1,792		5,164		171	

¹ All fish taken with set or drift gillnet. CPUE is number of fish per fisherman per hour.

² Chinook salmon season (unrestricted mesh size) through 7/5.

³ Summer chum salmon season (6 in [15.2 cm] maximum mesh size).

⁴ Fall chum salmon season (6 in [15.2 cm] maximum mesh size) through 8/13.

Chinook harvest was 2,583 fish during unrestricted mesh season (7/1-7/5), and 5 fish during small mesh season (7/15-7/16) and 8/5-8/13.

Appendix Table 4. Yukon River District 4 salmon commercial catch by period, 19851.

			Chin	ook	Summer	Ch um	Fall C	h um	Co	ho
Period Dates	Hours	No. of Fishermen	Fish	CPUE	Fi sh	CPUE	Fish ·	CPUE	Fi sh	CPUE
/30-7/02	48	18			10,530	12.19				
/03-7/05	48	36	16	0.01	21,508	12.45				
/07-7/09	48	53	73	0.03	53,411	20.99				
/10-7/12	48	67	128	0.04	61,571	19.15				
/14-7/16	48	63	143	0.05	50,180	16.59				
/17-7/19	48	62	142	0.05	27,498	9.24				
/21-7/23	48	60	83	0.03	16,536	5.74				
/24-7/26	48	53	68	0.03	11,425	4.49				
/28-7/30	48	31			4,056	2.73				
$/31-8/02^2$	48	4			985	5.13				
/04-8/06	48	3			438	3.04				
/07-8/09	48	2			572	5.96				
/11-8/13	48	2 2			382	3.98				
/14-8/16	48	3					681	4.73		
/18-8/20	48	15	2	0.00			2,369	3.29	26	0.04
/21-8/23	48	11	3	0.01			1,686	3.19	3	0.01
/25-8/27	48	18	2	0.00			4,333	5.02	101	0.12
/28-8/30	48	17	3	0.00		•	5,547	6.80	233	0.29
/01-9/03	48	15	Ō	0.00			4,273	5.93	72	0.10
/04-9/06	48	16	í	0.00			4,829	6.29	278	0.36
/08-9/10	48	10	-	0.00			2,338	4.87	168	0.35
/11-9/13	48	4					921	4.80	57	0.30
Total			664		259,092	~~~~	26 , 977		938	

¹ Fish taken by set gillnet and fishwheel. CPUE is number of fish per fisherman per hour. Includes "equivalent fish" converted from roe sales.

 $^{^{\}rm 2}$ 'Subdistricts 4B and 4C only from 7/31-9/13.

Appendix Table 5. Yukon River District 5 salmon commercial catch by period, 19851.

Period		No of	Chin	ook	Summer	Ch um	Fall (Ch um	C	oho
Dates	Hours	No. of Fishermen	Fi sh	CPUE	Fish	CPUE	Fish	CPUE	Fish	CPUE
/09-7/11	48	18	46 4	0.54						
/12-7/14	48	21	650	0.64	94	0.09				
/16-7/18	48	25	1,162	0.97	372	0.31				
/19-7/20	48	26	731	0.59	234	0.19				
$/21-7/27^{2}$	168	1	116	0.69						
$/28-8/03^{2}$	168	1	110	0.65						
$/04-8/10^2$	168	1	162	0.96						
/11-8/12	48	1	23	0.48						
/24-8/25	24	34					10,736	13.16		
/27-8/29	36	27					12,424	12.78		
$/13-9/14^2$	168	1					238	1.42		
$/15-9/21^2$	168	1				•	878	5.23		
$9/22-9/28^2$	168	1					1,062	6.32		
Total			3,418		700		25,338		0	

Fish taken by set gillnet and fishwheel. CPUE is number of fish per fisherman per hour. Includes "equivalent fish" converted from roe sales.

² Subdistrict 5D only.

Appendix Table 6. Yukon River District 6 salmon commercial catch by period, 19851.

			Chin	ook	Summer	Ch um	Fall C	ch um	Co	ho
Period Dates	Hours	No. of Fishermen	Fish	CPUE	Fi sh	CPUE	Fish	CPUE	Fish	CPUE
7/15-7/17	48	4	87	0.45						
7/19-7/21	48		3 43	0.79	778	1.80				
7/22-7/24	48	11	3 07	0.58	4,301	8.15				
7/26-7/28	48	18	191	0.22	11,707	13.55				
7/29-7/31	48	15	141	0.20	13,760	19.11				
8/02-8/04	48		53	0.06	15,013	16.46				
8/06-8/07	48	20	10	0.01	10,019	10.44				
8/09-8/11	48	16	10	0.01	6,582	8.57				
8/12-8/14	48	13			3,885	6.23				
8/16-8/18	48	8			2,408	6.27			2	0.01
9/15-9/16	24	18			•		14,056	32.54	4,321	10.00
9/17-9/18	24	21					10,331	20.50	3,037	6.03
9/24-9/25	24	18					17,965	41.59	4,402	10.19
Total			1,142		68,453		42,352		11,762	

Fish taken by set gillnet and fishwheel. CPUE is number of fish per fisherman per hour. Includes "equivalent fish" converted from roe sales.

Appendix Table 7. Yukon Territory, Canada, salmon commercial catch by period, 1985^{1} .

Period Dates	Hours	No. of Fishermen	Chinook	Fall Chum	
-07/27 07/28-08/03 08/04-08/10 08/11-08/17 08/18-08/24 08/25-08/31 09/01-09/07 09/08-09/14 09/15-09/21 09/22-09/28 09/29-10/05 10/06-10/12 10/13-10/19	120 120 120 120 120 120 120 120 120 96 120 120	22 24 27 25 14 7 4 16 17 16 15 9	985 4,018 4,410 2,516 485 121 16 12 10	4 3 6 157 3,391 10,018 9,014 9,538 2,047 1,568	
Total			12,573	35,746	

 $^{^{\}mbox{\scriptsize 1}}$ Catch taken primarily by gillnet, but an unreported proportion is taken by fishwheel.

Appendix Table 8. Whitehorse fishway daily chinook salmon escapement counts, 1985.

		Daily	Counts		Cumm	ulative
Date	Males	Females	Unknown	Total	Total	Percent
09-Aug	3	0	0	3	3	0.6
10-Aug	2	. 1	0	3 3	6	1.2
11-Aug	2	3	0	5	11	2.2
12-Aug	4	1	1	6	17	3.3
13-Aug	9	3 1 1 5 3	1	11	28	5.5
14-Aug	10	5	0	15	43	8.5
15-Aug	8	3	0	11	54	10.6
16-Aug	21	6	1	28	82	16.1
17-Aug	11	9	0	20	102	20.1
18-Aug	24	19	0	43	145	28.5
19-Aug	8	6	0	14	159	31.3
20-Aug	21	26	0	47	206	40.6
21-Aug	22	22	0	44	250	49.2
22-Aug	14	7	2	23	27 3	53.7
· 23-Aug	20	14	. 0	34	3 07	60.4
24-Aug	17	8	0	25	332	65.4
25-Aug	24	12	0	36	368	72.4
26-Aug	11	15	0	26	394	77.6
27-Aug	26	18	0	44	438	86.2
28-Aug	13	5	0	18	456	89.8
29-Aug	16	7	0	23	479	94.3
30-Aug	5	3	0	8	4 87	95.9
31-Aug	2	4	0	6	493	97.0
01-Sep	0	0	0	0	493	97.0
02-Sep	5	5	0	10	503	99.0
03-Sep	5 2	5 2	0	4	507	99.8
04-Sep	0	0	0	0	5 07	99.8
09-Sep	0	0	ì	1	508	100.0
Total	300	202	6	508 ¹		

Includes 92 fish taken for hatchery brood stock and 15 prespawning mortalities. Actual escapement was 401 fish.

Appendix Table 9. Big Salmon River weir daily chinook salmon escapement counts, 1985.

r	Date	Daily Count	Cumula		
1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 3 3 3 0 0 0 0 0	A C C C C C C C C C C C C C C C C C C C	10 6 36 104 48 71 31 42 21 22 21 17 9 3 5 1 0 1	Count 10 16 52 156 204 275 306 348 369 391 412 429 438 441 446 447 452 453 454 455 455	Per cent 2.2 3.5 11.4 34.2 44.7 60.3 67.1 76.3 80.9 85.7 90.4 94.1 96.7 97.8 98.0 99.3 99.3 99.6 99.8 99.8 100.0	

Appendix Table 10. Anvik River daily summer chum salmon escapement sonar counts, 1985.

Appendix Table II. Sheenjek River daily fall chum salmon escapement sonar counts, 1985.

		Cumula	ative	
Date	Daily Count	Count	Percent	
02-Sep	2,445	2,445	1.6	
03-Sep	1,225	3,670	2.4	
04-Sep	2,069	5,739	3.8	
05-Sep	2,784	8,523	5.6	
06-Sep	4,122	12,645	8.3	
07-Sep	5,912	18,557	12.1 15.2	
08-Sep	4,641	23,198	18.0	
09-Sep	4,296 3,132	27,494 30,626	20.0	•
10-Sep 11-Sep	5,821	36,447	23.9	•
11-5ep 12-Sep	2,808	39,255	25.7	
12-Sep 13-Sep	3,488	42,743	28.0	
13 Bep 14-Sep	2,609	45,352	29.7	
15-Sep	4,637	49,989	32.7	
16-Sep	7,457	57,446	37.6	
17-Sep	5,418	62,864	41.1	
18-Sep	3,958	66,822	43.7	
19-Sep	5,653	72,475	47.4	
20-Sep	6,872	79,347	51.9	
21-Sep	6,849	86,196	56.4	
22-Sep	10,528	96,724	63.3	
23-Sep	9,406	106,130	69.5	
24-Sep	10,314	116,444	76.2	
25-Sep	9,672	126,116	82.6	
26-Sep	6,133	132,249	86.6	
27-Sep	5,924	138,173	90.4	
28-Sep	7,425	145,598	95.3	
29-Sep	7,170	152,768	100.0	

Appendix Table 12. Fishing Branch River weir daily fall chum salmon escapement counts, 1985.

		Cumul	ative
Date	Daily Count	Count	Percent
06-Sep	7	7	.0
07-Sep	112	119	0.2
08-Sep	46	165	0.3
09-Sep	115	280	0.5
10-Sep	61	341	0.6
11-Sep	0	341	0.6
12-Sep	0	341	0.6
13-Sep	83	424	0.8
14-Sep 15-Sep	691 1,646	1,115 2,761	2.0 4.9
15-Sep 16-Sep	897	3,658	6.5
17-Sep	0 0	3,658	6.5
18-Sep	818	4,476	8.0
19-Sep	538	5,014	9.0
20-Sep	759	5,773	10.3
21-Sep	1,066	6,839	12.2
22-Sep	1,608	8,447	15.1
23-Sep	2,121	10,568	18.9
24-Sep	2,080	12,648	22.6
25-Sep	2,125	14,773	26.4
26-S ep	1,869	16,642	29.7
27-Sep	1,776	18,418	32.9
28-Sep	2,664	21,082	37.6
29-S ep	3,155	24,237	43.3
30-Sep	3,410	27,647	49.4
01-0ct	3,189	30,836	55.1
02-0ct	3,345	34,181	61.0
03-0ct	3,104	37,285	66.6
04-0ct	2,578	39,863	71.2
05-0ct	2,178	42,041	75.1
06-0ct 07-0ct	1,556 1,773	43,597 45,370	77.9 81.0
08-0ct	1,999	47,369	84.6
09-0ct	1,797	49,166	87.8
10-0ct	1,341	50,507	90.2
11-0ct	1,201	51,708	92.3
12-0ct	1,140	52,848	94.4
13-0ct	740	53,588	95.7
14-0ct	724	54,312	97.0
15-0ct	544	54,856	98.0
16-0ct	480	55,336	98.8
17-0ct	300	55,636	99.4
18-0ct	203	55,839	99.7
19-0ct	152	55,991	100.0
20-0ct	25	56,016	100.0

Appendix Table 13. Yukon River District 1 chinook salmon commercial gillnet catch, age, and sex by fishing period, 1985.

		1981	1980	Brood 19		Age Grou		1977	
		1.2	1.3	1.4		1.5	2.4	2.5	Total
Stratum Dates Sample Dates: Sample Size:		Period							
Female	Percent of Sample Number in Catch	0.0	0.0	46.8 11,042	0.0	5.9 1,384	2.1 489	1.2 283	58.9 13,198
Male	Percent of Sample Number in Catch	0.0	7.4 1,746	32.0 7,549	0.0	2.9 692	0.8 195	0.0	41.1 10,182
Total	Percent of Sample Number in Catch Standard Error	0.6 1422 99	7.4 1,746 336	78.8 18,591 525	0.3 71 2 70	8.8 2,076 364	2.9 684 215	1.2 283 140	100.0 23,593
Stratum Dates Sample Dates: Sample Size:		Period	2 ¹						
Female	Percent of Sample Number in Catch	0.0	1.0 337	49.9 16,804	0.0	5.7 1,934	1.2 421	0.0	57.8 19,496
Male	Percent of Sample Number in Catch	1.3 438	5.0 1,684	31.8 10,720	0.0	2.5 829	1.2 421	0.0	42.2 14,092
Total	Percent of Sample Number in Catch Standard Error	1.3 438 215	6.0 2,021 450	81.7 27,525 733	0.0 0 0	8.2 2,762 520	2.5 842 296	0.3 101 ² 104	100.0 33,689
Stratum Dates Sample Dates: Sample Size:	•	Period	3 1				can dan dan dan dan mar dan d		
Female	Percent of Sample Number in Catch	0.0	1.0 188	51.1 9,614	0.0	7.2 1,361	0.0	0.0	61.0 11,163
Male	Percent of Sample Number in Catch	2.5 471	5.5 1,035	27.8 5,238	0.0	4.3 804	0.6 113	0.0	39.0 7,661
Total	Percent of Sample Number in Catch Standard Error	2.5 471 164	6.5 1,224 259	78.9 14,851 428	0.0 0 0	11.5 2,165 335	0.6 113 81	0.0 0 0	100.0 18,824
Stratum Dates Sample Dates: Sample Size:		Period.	4 3				_======		
Female	Percent of Sample Number in Catch	0.4 21	3.5 176	31.3 1,569	0.4 20	3.7 186	0.0	0.0	39.3 1,972
Male	Percent of Sample Number in Catch	16.8 841	15.8 792	24.0 1,204	0.0	3.3 165	0.8 40	0.0	60.7 3,042
Total	Percent of Sample Number in Catch Standard Error	17.2 862 121	19.3 968 127	55.3 2,773 160	0.4 20 20	7.0 351 82	0.8 40 29	0.0 0 0	100.0 5,014

-Continued-

Appendix Table 13. Yukon River District 1 chinook salmon commercial gillnet catch, age, and sex by fishing period, 1985 (continued).

					Year and				
		1981	1980	1	979	1:	978	1977	
		1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates Sample Dates: Sample Size:		Period	53						
Female	Percent of Sample Number in Catch	0.0	0.5 28	27.6 1,500	0.0	2.5 136	0.0	0.0	30.7 1,664
Male	Percent of Sample Number in Catch	21.6 1,175	25.6 1,392	21.2 1,154	0.5 27	0.0	0.5 27	0.0	69.3 3,775
Total	Percent of Sample Number in Catch Standard Error	21.6 1,175 159	26.1 1,420 170	48.8 2,654 193	0.5 27 27	2.5 136 60	0.5 27 27	0.0 0 0	100.0 5,439
Stratum Dates Sample Dates: Sample Size:		Period	63		,				
Female	Percent of Sample Number in Catch	0.0	1.1	22.1 434	0.0	1.0 21	2.1 41	0.0	26.3 517
Male	Percent of Sample Number in Catch	17.9 352	14.7 289	35.8 704	0.0	5.2 103	0.0	0.0	73.7 1,448
Total	Percent of Sample Number in Catch Standard Error	17.9 352 78	15.8 310 74	57.9 1,138 100	0.0 0 0	6.3 124 49	2.1 41 29	0.0 0 0	100.0 1,965
Stratum Dates Sample Dates: Sample Size:	· · · · · · · · · · · · · · · · · · ·	Period	73		am Ag go air an din dir dir dir				
Female	Percent of Sample Number in Catch	0.0	4.0 32	44.0 354	0.0	4.0 32	0.0	0.0	52.0 418
Male	Percent of Sample Number in Catch	12.0 96	4.0 32	28.0 225	0.0	4.0 32	0.0	0.0	48.0 385
Total	Percent of Sample Number in Catch Standard Error	12.0 96 53	8.0 64 44	72.0 579 74	0.0 0 0	8.0 64 44	0.0 0	0.0	100.0
Stratum Dates Sample Dates: Sample Size:	· · · · · · · · · · · · · · · · · · ·	Periods	8-123						
Female	Percent of Sample Number in Catch	0.0	0.0	27.2 187	0.0	9.1 62	0.0	0.0	36.4 249
Male	Percent of Sample Number in Catch	18.2 124	18.2 124	27.2 187	0.0	0.0	0.0	0.0	63.6 435
Total	Percent of Sample Number in Catch Standard Error	18.2 124 83	18.2 124 83	54.5 374 108	0.0 0 0	9.1 62 62	0.0	0.0	100.0

Chinook salmon season. No mesh size restriction, most fish taken with 8-1/2 in (21.6 cm) mesh.

² Fish sampled without sex information, total for sexes combined greater than sum of individual sexes.

³ Chum salmon season, 6 in (15.2 cm) stretch mesh maximum.

Appendix Table 14. Yukon River District 1 chinook salmon commercial gillnet catch, age, and sex by sample period, 1985.

		1981	1980		Year and 979		up 1978	1977	•
		1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates: Sample Dates: Sample Size:	6/24-6/28 6/25-6/28 656	Sample	Period l	1					,
Female	Percent of Sample Number in Catch	0.0	0.6 337	48.6 27,846	0.0	5.8 3,318	1.6 910	0.7 283	57.4 32,694
Male	Percent of Sample Number in Catch	1.0 438	6.0 3,430	31.9 18,269	0.0	2.7 1,521	1.1 616	0.0	42.6 24,274
Total	Percent of Sample Number in Catch Standard Error	1.0 580 ² 236	6.6 3,767 562	80.5 46,116 901	0.1 712 70	8.4 4,838 634	2.7 1,526 366	0.7 384 ² 174	100.0 57,282
Stratum Dates: Sample Dates: Sample Size:	7/01-7/02 7/02 323	Sam ple	Period 2	1					- "
Female	Percent of Sample Number in Catch	0.0	1.0 188	51.1 9,614	0.0	7.2 1,361	0.0	0.0	59.3 11,163
Male	Percent of Sample Number in Catch	2.5 471	5.5 1,035	27.8 5,238	0.0	4.3 804	0.6 113	0.0	40.7 7,661
Total	Percent of Sample Number in Catch Standard Error	2.5 471 164	6.5 1,224 259	78.9 14,851 428	0.0 0 0	11.5 2,165 335	0.6 113 81	0.0 0 0	100.0 18,824
Stratum Dates: Sample Dates: Sample Size:	· · · · · · · · · · · · · · · · · · ·	Sample	Period ³	# # # # # # # # # # # # # # # # # # #		den deur dem met neur deur men men.			
Female	Percent of Sample Number in Catch	0.2	1.8 257	29.1 4,044	0.1	3.1 437	0.3 41	0.0	34.7 4,820
Male	Percent of Sample Number in Catch	18.6 2,588	18.9 2,629	25.0 3,474	0.2 27	2.2 300	0.5 67	0.0	65.3 9,085
Total	Percent of Sample Number in Catch Standard Error	18.8 2,609 236	20.8 2,886 244	54.1 7,518 300	0.3 47 34	5.3 737 137	0.8 108 49	0.0 0 0	100.0 13,905
Stratum Dates Sample Dates: Sample Size:	* . * . * . * . * . * . * . * . * . * .	Season	Total						
Female	Percent of Sample Number in Catch	.0 21	0.9 782	46.1 41,504	0.1 20	5.7 5,116	1.1 951	0.4 283	54.3 48,677
Male	Percent of Sample Number in Catch	4.0 3,497	7.9 7,09 4	30.0 26,981	0 .1 27	2.9 2,625	0.9 796	0.0	45.7 41,020
Total	Percent of Sample Number in Catch Standard Error	4.1 3,660 ² 352	8.8 7,877 652	76.1 68,485 1,029	0.1 118 ² 75	8.6 7,740 726	1.9 1,747 377	0.4 3842 174	100.0 90,011

 $^{^{1}}$ Chinook salmon season. No mesh size restriction, most fish taken with 8-1/2 in (21.6 cm) mesh.

² Fish sampled without sex information, total for sexes combined greater than sum of individual sexes.

³ Chum salmon season, 6 in (15.2 cm) stretch mesh maximum.

Appendix Table 15. Yukon River District 2 chinook salmon commercial gillnet catch, age, and sex by fishing period, 1985.

		1981		1980			and A	19	78	1977	
		1.2	0.4	1.3	2.2	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates: Sample Dates: Sample Size:		Period	11					******			
Pemale	Percent of Sample Number in Catch	e 0.0 0	0.0	1.3	0.0	34.0 2,374	0.0	5.4 376	1.0	0.0	41.5 2,912
Male	Percent of Sample Number in Catch	0.0	0.0	4.3 299	0.0	46.9 3,271	0.0	5.8 405	1.0	0.0	58.5 4,045
Total	Percent of Sample Number in Catch Standard Error	e 0.0 0 0	0.3 202 20	5.6 391 87	0.0	80.9 5,645 149	0.0	11.2 781 120	2.0 140 53	0.0 0 0	100.0 6,977
Stratum Dates: Sample Dates: Sample Size:		Period .	21								
Pemale	Percent of Sample Number in Catch	e 0.0 0	0.0	0.9 172	0.0	37.6 6,889	0.0	4.9 902	2.3 427	0.3 55	45.4 8,445
Male	Percent of Sample Number in Catch		0.0	8.5 1,548	0.0	.39.2 7,164	0.3 55	4.2 763	1.2	0.0	54.6 9,853
Total	Percent of Sample Number in Catch Standard Error	0.6 110 77	0.0 0	9.4 1,720 290	0.0 0 0	76.8 14,053 420	0.3 55 54	9.1 1,665 286	3.5 640 183	0.3 55 54	100.0 18,298
Stratum Dates: Sample Dates: Sample Size:		Period	41					,			
Pemale	Percent of Sample Number in Catch	e 0.0	0.0	0.7 86	0.0	38.2 4,940	0.0	6.3 811	0.6 78	0.0	45.0 5,915
Male	Percent of Sample Number in Catch	1.2 155	0.0	7.6 986	0.0	39.8 5,137	0.0	5.0 649	0.6 78	0.0	55.0 7,005
Total	Percent of Sample Number in Catch Standard Error	155 77	0.0 0	8.3 1,072 194	0.0 0 0	78.0 10,077 292	0.0 0 0	11.3 1,460 223	1.2 155 77	0.0 0 0	100.0
Stratum Dates: Sample Dates: Sample Size:		Period		****	*			*****		*****	******
emale	Percent of Sample Number in Catch		0.0	0.0	0.0	9.5 148	0.0	0.0	0.0	0.0	40.4 148
Male	Percent of Sample Number in Catch	e 30.3 472	0.0	30.3 472	0.0	23.9 371	3.0 47	0.0	0.0	0.0	59.6 1,362
Total	Percent of Sample Number in Catch Standard Error	472 126	0.0 0 0	30.3 472 126	0.0 0 0	33.4 519 130	3.0 47 47	3.0 472 47	0	0.0 0 0	100.0
Stratum Dates: Sample Dates: Sample Size:	7/07-7/08 7/08	Period	53	~~~~~							
Female	Percent of Sample Number in Catch	e 0.0 0	0.0	0.6 17	0.0	8.7 267	0.0	1.1	0.0	0.0	10.2 318
	Percent of Sample Number in Catch										
Total	Percent of Sample Number in Catch Standard Error	e 51.7 1,578 114	0.0	22.2 678 95	0.6 18 18	23.3 711 96	0.0 0 0	2.2 67 33	0.0	0.0 0 0	100.0
Stratum Dates: Sample Dates: Sample Size:	7/10-7/11	Period	63								
	Percent of Sample Number in Catch										
	Percent of Sample Number in Catch										
Total	Percent of Sampl Number in Catch Standard Error	e 23.4 687	0.0	26.6 781	0.0	46.8 1,373	0.0	3.2 94	0.0	0.0	100.0

Chinook salmon season. No mesh size restriction, most fish taken with 8-1/2 in (21.6 cm) mesh. Fish sampled without sex information, total for sexes combined greater than sum of individual sexes.

Chum salmon season, 6 in (15.2 cm) stretch mesh maximum.

Appendix Table 16. Yukon River District 2 chinook salmon commercial gillnet catch, age, and sex by sample period, 1985.

		1981		1980	Br		979	19	78	1977	
		1.2	0.4	1.3	2.2	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates: Sample Dates: Sample Size:	6/26-7/01 \$ 6/27-7/01 679	Sam ple	Period	1 1							
Female	Percent of Sample Number in Catch	0.0	0.0	1.0 264	0.0	36.6 9,263	0.0	5.1 1,278	2.0 497	0.2 55	
Male	Percent of Sample Number in Catch	0.4 110	0.0	7.3 1,847	0.0	41.3 10,435	0.2 55	4.6 1,168	1.1 283	0.0	55.0 13,898
Total	Percent of Sample Number in Catch Standard Error	0.4 110 77	0.1 20 2 20	8.4 2,111 303	0.0	77.9 19,698 446	0.2 55 54	9.7 2,446 310	3.1 780 190	0.2 55 54	100.0 25,275
Stratum Dates: Sample Dates: Sample Size:	7/03-7/04 \$ 7/04-7/05	Sample	Period	21							
Female	Percent of Sample Number in Catch	0.0	0.0	0.7 86	0.0	38.2 4,940	0.0	6.3 811	0.6 78	0.0	45.0 5,915
Male	Percent of Sample Number in Catch	1.2 155	0.0	7.6 986	0.0	39.8 5,137	0.0	5.0 649	0.6 78	0.0	55.0 7,005
Total	Percent of Sample Number in Catch Standard Error	1.2 155 77	0.0 0 0	8.3 1,072 194	0.0 0 0	78.0 10,077 292	0.0 0 0	11.3 1,460 223	1.2 155 77	0.0 0 0	100.0 12,919
Stratum Dates: Sample Dates: Sample Size:			Period	3 3			~ ~ ~ ~ ~				
Female	Percent of Sample Number in Catch	0.0	0.0	1.9 195	0.0	18.8 1,912	0.0	1.1 93	0.0	0.0	21.1 2,135
Male	Percent of Sample Number in Catch	33.0 3,352	0.0 0	23.9 2,434	0.2 18	18.9 1,921	0.5 47	1.8 153	0.0	0.0	78.9 7,989
Total	Percent of Sample Number in Catch Standard Error	33.0 3,352 298	0.0	25.9 2,629 300	0.2 18 18	37.7 3,833 330	0.5 47 47	2.9 2922 117	0.0 0 0	0.0	100.0 10,171
Stratum Dates: Sample Dates: Sample Size:		E AS ON	TOTAL								
Female	Percent of Sample Number in Catch	0.0	0.0	1.1 545	0.0	33.3 16,115	0.0	4.6 2,182	1.2 575		40.3 19,472
Male	Percent of Sample Number in Catch	7.5 3,617	0.0	10.9 5,267	.0 18	36.2 17,493	0.2 102	4.1 1,970	0.7 361	0.0	59.7 28,827
Total	Percent of Sample Number in Catch Standard Error	7.5 3,617 317	20 2 20 2	12.0 5,812 469	.0 18 18	69.5 33,608 627	0.2 102 72	8.7 4,198 ² 400	1.9 935 205	0.1 55 54	100.0 48,365

Chinook salmon season. No mesh size restriction, most fish taken with 8-1/2 in (21.6 cm) mesh.

 $^{^{2}}$ Fish sampled without sex information, total for sexes combined greater than sum of individual sexes.

³ Chum salmon season, 6 in (15.2 cm) stretch mesh maximum.

Appendix Table 17. Yukon River District 3 chinook salmon commercial gillnet catch, age, and sex composition, 1985.

		1981	1980	Brood Year and 1979			oup 978	1977	
		1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates: Sample Dates: Sample Size:	7/1-8/13 7/5	The Care and See Care Div Go		n barn girli dina dan gara ana dan dan da	. Chie des per per tur des uns de			gani daya dika dan tang gani dan kim t	<u> </u>
Female	Percent of Sample Number in Catch	0.0	2.7 69	39.1 1,012	0.0	2.4 61	1.3 34	0.0	45.6 1,176
Male	Percent of Sample Number in Catch	1.6 41	8.0 208	39.6 1,025	0.6 16	3.1 81	1.3 34	0.0	54.4 1,405
Total	Percent of Sample Number in Catch Standard Error	1.6 41 18	10.7 277 46	78.7 2,037 60	0.6 16 11	5.5 142 34	2.6 67 23	0.3 8 ² 8	100.0 2,588

Allocation based on 8-1/2 in (21.6 cm) mesh gillnet samples from District 3 commercial catch.

² Fish sampled without sex information, total for sexes combined greater than sum of individual sexes.

Appendix Table 18. Yukon River District 4 chinook salmon catch, age, and sex composition, 19851.

	n man par gire par den sin die des des det den een ser par den dir den den den een een den ben een een een een	. (11. (11. 11. 11. 11. 11. 11. 11. 11.	Brood Year and Age Group									
		1981	1980		79		78					
		1.2	1.3	1.4	2.3	1.5	2.4	Total				
Stratum Da Sample Dat Sample Siz	ces: 7/06-8/22		ng dian gian gian dian dian dian dian dian dian dian d		, dan dan dan dan dan dan dan dan da	a dan dan dan dan dan dan dan dan dan da						
Female	Percent of Sample Number in Catch	0.4 32	3.4 275	37.5 3,033	0.0	3.0 243	0.0	44.3 3,583				
Male	Percent of Sample Number in Catch	9.8 793	16.7 1,351	25.4 2,055	0.4 32	3.0 243	0.4 32	55.7 4,506				
Total	Percent of Sample Number in Catch Standard Error	10.2 825 151	20.1 1,626 200	62.8 5,088 241	0.4 32 31	6.1 486 119	0.4 32 31	100.0				

Pooled commercial and subsistence, gillnet, and fishwheel catches. Allocated based on District 4 commercial and subsistence catch samples pooled, taken with various mesh size gill nets, up to 8-1/2 in (21.6 cm) maximum, and fishwheels.

² Commercial fishing season.

³ Galena commercial and subsistence catch samples. Includes 198 gillnet samples, and 66 fishwheel samples.

Appendix Table 19. Yukon River District 5 chinook salmon catch, age, and sex composition, 19851.

		Bro			ood Year and Age Group 1979 1978					
	·	1.2	1.3	2.2	1.4	2.3	1.5	2.4	Total	
Stratum Dates Sample Dates: Sample Size:	-,, - -				t dan dan dan dan dan gun dan (-			
Female	Percent of Sample Number in Catch	0.0	0.5 91	0.0	18.6 3,451	0.0	5.9 1,086	0.7 137	25.7 4,765	
Male	Percent of Sample Number in Catch	7.1 1,314	23.3 4,314	0.7 130	34.5 6,376	2.0 370	3.7 691	3.0 548	74.3 13,743	
Total	Percent of Sample Number in Catch Standard Error	7.1 1,314 236	23.8 4,405 391	0.7 130 76	53.1 9,827 458	2.0 370 128	9.6 1,777 270	3.7 685 173	100.0 18,508	

Pooled commercial and subsistence, gillnet, and fishwheel catch. Allocation based on District 5 commercial and subsistence catch samples pooled, taken with various mesh size gillnets, up to 8-1/2 in (21.6 cm) maximum, and fishwheels.

² Includes 201 gillnet samples, 186 fishwheel samples, and 21 samples from unknown.

Appendix Table 20. Yukon River District 6 chinook salmon commercial catch, age, and sex composition, 19851.

	y gay gan gay dan dan dan dan dan gan ann ann ann ann ann an dan gar dan dan ann ann ann ann ann ann ann	1982	Brood 1981	Year and 1	Age Group 1979	1978	
		1.1	1.2	1.3	1.4	1.5	Total
Stratum Dates: Sample Dates: Sample Size:	7/15-8/11 7/24-8/13 69 ²			¥ 4			
Female	Percent of Sample Number in Catch	0.0	0.0	4.3 49	15.9 182	1.4 16	21.6 247
Male	Percent of Sample Number in Catch	1.4 16	20.3 232	42.2 482	14.5 166	0.0	78.4 896
Total	Percent of Sample Number in Catch Standard Error	1.4 16 16	20.3 232 56	46.5 531 69	30.4 347 64	1.4 16 16	100.0 1,142

Allocation based on District 6 commercial catch samples taken with unknown mesh size gillnets and fishwheels.

² Includes 26 gillnet catch samples and 43 fishwheel catch samples.

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Appendix Table 21. Yukon Territory chinook salmon commercial catch, age, and sex composition, 1985.

		1981	1980				nd Age Group 1978 1977		
		1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates Sample Dates: Sample Size:		tion this part que que que qu		MI Am the gir or or on an ear (the days down game date again.		
Female	Percent of Sample Number in Catch	0.0	2.0 251	37.7 4,740	0.0	17.5 2,200	1.4 176	0.5 63	59.1 7,431
Male	Percent of Sample Number in Catch	0.2 25	8.3 1,044	27.7 3,483	0.5 63	3.1 390	0.9 113	0.2 25	40.9 5,142
Total	Percent of Sample Number in Catch Standard Error	0.2 25 22	10.3 1,295 151	65.4 8,223 237	0.5 63 35	20.6 2,590 201	2.3 289 75	0.7 88 41	100.0 12,573

Allocation based on Yukon Territory commercial 8-1/2 in (21.6 cm) mesh gillnet catch samples.

Appendix Table 22. Yukon River District 1 chinook salmon subsistence catch, age, and sex composition, 1985 1.

		1981	1980	Brood Year 1979		and Age Group 1978		1977		
		1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total	
Female	Percent of Sample Number in Catch	.0	0.9 27	46.1 1,416	0.1	5.7 175	1.1	0.4	54.2 1,665	
Male	Percent of Sample Number in Catch	4.0 124	7.9 242	30.0 921	0.1	2.9	0.9 27	0.0	45.8 1,406	
Total	Percent of Sample Number in Catch	4.1 125	8.8 269	76.1 2,337	0.1	8.6 265	1.9 59	0.4	100.0 3,071	

Allocation based on District 1 commercial 6 in (15.2 cm) and 8-1/2 in (21.6 cm) mesh gillnet samples.

Appendix Table 23. Yukon River District 2 chinook salmon subsistence catch, age, and sex composition, 1985.

		1981	Brood 1980			d Year and Age 1979		Group 1978			
		1.2	0.4	1.3	2.2	1.4	2.3	1.5	2.4	2.5	Total
Female	Percent of Sample Number in Catch	0.0	0.0	1.1	0.0	33.3 1,156	0.0	4.6 158	1.2 41	0.1	40.3 1,398
Male	Percent of Sample Number in Catch	7.5 259	.0	10.9 378	.0 1	36.2 1,254	0.2	4.1 143	0.7 26	0.0	59.7 2,068
Total	Percent of Sample Number in Catch	7.5 259	.0	12.0	.0	69.5 2,410	0.2	8.7 301	1.9 67	0.1 4	100.0 3,468

¹ Allocation based on District 2 commercial 6 in (15.2 cm) and 8-1/2 in (21.6 cm) mesh gillnet samples.

² Fish sampled without sex information, total for sexes combined greater than sum of individual sexes.

THE SEA SEA SEA SEA SEA SEA SEA SEA SEA SE		1981	1980		Brood Year 1979		roup 78	1977	
or er as as as as as as as		1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Female	Percent of Sample Number in Catch	0.0	2.7 89	39.1 1,307	0.0	2.4 79	1.3 43	0.0	45.6 1,518
Male	Percent of Sample Number in Catch	1.6 53	8.0 268	39.6 1,323	0.6	3.1 105	1.3 43	0.0	54.4 1,812
Total	Percent of Sample Number in Catch	1.6 53	10.7 358	78.7 2,630	0.6 20	5.5 184	2.6 87	0.3 10 ²	100.0 3,342

¹ Allocation based on District 3 commercial 8-1/2 in (21.6 cm) mesh gillnet samples.

² Fish sampled without sex information, total for sexes combined greater than sum of individual sexes.

	- The first		Brood Year and Age Group							
		1982	1981	1980	1979	1978				
		1.1	1.2	1.3	1.4	1.5	Total			
Female	Percent of Sample Number in Catch	0.0	0.0	4.3 317	15.9 1,173	1.4 103	21.6 1,593			
Male	Percent of Sample Number in Catch	1.4 103	20.3 1,497	42.2 3,112	14.5 1,069	0.0	78.4 5,782			
Total	Percent of Sample Number in Catch	1.4	20.3 1,497	46.5 3,429	30.4	1.4 103	100.0 7,375			

¹ Allocation based on District 6 commercial catch samples taken with unknown mesh size gillnets and fishwheels.

		1981	1980	Brood Year 1979		and Age Group 1978		1977	
		1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Female	Percent of Sample Number in Catch	0.0	2.0 129	37.7 2,423	0.0	17.5 1,125	1.4 90	0.5 32	59.1 3,799
Male	Percent of Sample Number in Catch	0.2 13	8.3 534	27.7 1,781	0.5 32	3.1 199	0.9 58	0.2 13	40.9 2,629
Total	Percent of Sample Number in Catch	0.2	10.3 662	65.4 4,204	0.5 32	20.6 1,324	2.3 148	0.7 45	100.0 6,428

 $^{^{1}}$ Allocation based on Yukon Territory commercial 8-1/2 in (21.6 cm) mesh gillnet catch samples.

Appendix Table 27. Age, sex, and size¹ of Yukon River chinook salmon catch and escapement samples collected in 1985, but not used to apportion harvest.

Location			1982	1981	1980		79	19	78	1977	
	Sex		1.1	1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Big Eddy ² 8-1/2 in (21.6 cm)	Females	Mean Percent Sample Size		855.0 0.4 1	775.0 1.2 3	871.4 47.6 118		922.5 4.0 10	840 0	990 0	
6/15-7/14	Males	Mean Percent Sample Size		560.0 0.8 2	732.0 4.0 10	846.0 37.1 92		993.1 3.2 8	803.0 0.4 1		45.6 113
*	Combined	Mean Percent Sample Size		3	13	860.1 84.7 210		953.9 7.3 18	1.2	880.0 0.4	100.0
5-1/2 in (14 cm) Gillnets		Percent Sample Size				848.8 23.5 4	•				23.5
6/20-7/10	Males	Mean Percent Sample Size		565.8 35.3 6	653.0 ·11.8 2	29.4					76.5 13
		Mean Percent Sample Size		565.8 35.3 6	2	9					100.0
8-1/2 in (21.6 cm)	Females	Mean Percent Sample Size			701.3 6.6 4	855.4 39.3 24		900 4.9 3			50.8 31
6/20-7/13	Males	Mean Percent Sample Size		562.2 14.8 9	14.8	853.6 18.0 11		1000			49.2 . 30
		Mean Percent Sample Size		14.8 9	698.1 21.3 13	854.9 57.4 35		925 6.6 4			100.0
Stink Cr. ² Fishwheel 7/06-7/27	Females	Mean Percent Sample Size		545.0 1.7 1	640.0 1.7 1	797.7 19.0 11		870.0 1.7 1			24.1 14
	Males	Mean Percent Sample Size	1.7	505.1 56.9 33	686.7 15.5 9	3.4					75.9 44
	Combined	Per cent	1.7	502.4 58.6 34	17.2	22.4		870.0 1.7 1			100.0
Ruby South Bank ² Fishwheel 8/06-8/20	Females	Mean Percent Sample Size			4.0	844.2 48.0 12		900.0			56.0 14
-, 44 4, 24	Males	Mean Percent Sample Size			795.0 8.0 2			0.0			44.0
	Combined	Mean Percent Sample Size		527.5 8.0 2	803.3 12.0 3	844.2 76.0 19		900.0 4.0 1			100.0

-Continued-

Appendix Table 27. Age, sex, and size¹ of Yukon River chinook salmon catch and escapement samples collected in 1985, but not used to apportion harvest (continued).

Location			1982	1981	1980	ear and l	Age Gr 979		78	1977	
Gear Date	Sex		1.1	1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Ruby North Bank ² Fishwheel 8/06-8/22	Females	Mean Percent Sample Size			682.5	792.5 20.0 4		868.3 15.0 3	* (A)		45.0 9
-, 34 -, ==	Males	Mean Percent Sample Size			750.0 10.0 2	869.2 30.0 6		1120.0 5.0 1			55.0 11
	Combined	Mean Percent Sample Size		480 10.0 2	716.3 20.0 4	838.5 50.0 10		931.3 20.0 4			100.0
Clear Cr. ³ Weir 7/24-7/26	Females	Mean Percent Sample Size				796.7 44.8 30					44. 8 30
•	Males	Mean Percent Sample Size			752.3 6.0 4	781.6 49.3 33					55.2 37
	Combined	Mean Percent Sample Size			752.3 6.0 4	788.8. 94.0 63					100.0
Big Salmon R. Weir 8/20-9/09		Mean Percent Sample Size				823.7 4.1 13		890.0 0.6 2		908.0 0.3 1	5.0 16
	Males	Mean Percent Sample Size		1.6	21.8	773.3 60.6 192	655.0 0.6 2	961.8 9.8 31	752.5 0.6 2		95.0 301
	Combined	Mean Percent Sample Size		1.6 5	21.8 69	64.7 205	0.6 2	957.5 10.4 33	0.6	0.3	100.0
Whitehorse ³ Fishway 8/19-9/09	Females	Mean ⁴ Percent Sample Size			715.0 1.8	719.7 54.5 30			711.3 7.3 4	802.5 3.6	67.3 37
	Males	Mean ⁴ Percent Sample Size			5.5	665.0 20.0 11			698.8 7.3 4		32.7 18
	Combined	Mean ⁴ Percent Sample Size			671.3 7.3 4	705.0 74.5 41			705.0 14.5 8	802.5 3.6 2	100.0 55

Length is mid-eye to fork-of-tail, except as noted.

² Test fish sampled.

³ Hatchery eggtake.

⁴ Length is post-orbit to hypural-plate.

Appendix Table 28. Yukon River District 1 summer chum salmon commercial gillnet catch, age, and sex composition by sample period, 1985.

		1982	Brood Year 1981	and Age 1980		
		0.2	0.3	0.4	0.5	Total
Stratum Dates: Sample Dates: Sample Size:	6/24-7/02 6/25-7/02 663 1					
Female	Percent of Sample Number in Catch	0.2 169		14.8 12,533		
Male	Percent of Sample Number in Catch	0.0		21.2 17,952		
Total	Percent of Sample Number in Catch Standard Error	0.2 169 147		36.0 30,485 1,580	1.1 931 343	100.0 84,680
Stratum Dates: Sample Dates: Sample Size:	7/04-7/09 7/05-7/09 492 ²					
Female	Percent of Sample Number in Catch	0.4 574		12.4 17,805		
Male	Percent of Sample Number in Catch	0.2 287		15.4 22,113		
Total	Percent of Sample Number in Catch Standard Error	0.6 862 500	102,235	27.8 39,917 2,903		100.0 143,588
Stratum Dates: Sample Dates: Sample Size:	7/11-7/15 7/12-7/16 482 ²					
Female	Percent of Sample Number in Catch	0.2 38				
Male	Percent of Sample Number in Catch	0.4 77		10.6 2,037		49.0 9,416
Total	Percent of Sample Number in Catch Standard Error	0.6 115 68		22.0 4,228 363	0.4 77 55	100.0
Stratum Dates: Sample Dates: Sample Size:	6/2 4- 7/15 6/25-7/16 1637					
Female	Percent of Sample Number in Catch	0.3 782		13.2 32,528	0.2 462	
Male	Percent of Sample Number in Catch	0.2 364		17.0 42,102	0.4 1,120	53.8 133,247
Total	Percent of Sample Number in Catch Standard Error	0.5 1,146 526			0.6 1,582 537	100.0 247,486

Allocation based on 8-1/2 in (21.6 cm) mesh gillnet samples from District 1 commercial catch.

² Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 29. Yukon River District 2 summer chum salmon commercial gillnet catch, age, and sex composition, 1985.

		1982	Brood Year 1981 0.3	and Age 1980 0.4	Group 1979 0.5	Total
Female	Percent of Sample	0.3	32.5	13.2	0.2	46.2
	Number in Catch	564	61,132	24,829	376	86,901
Male	Percent of Sample	0.2	36.2	17.0	0.4	53.8
	Number in Catch	376	68,093	31,977	752	101,198
Total	Percent of Sample	0.5	68.7	30.2	0.6	100.0
	Number in Catch	940	129,225	56,806	1,128	188,099

Allocation based on pooled 8-1/2 in (21.6 cm) and 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 30. Yukon River District 3 summer chum salmon commercial gillnet catch, age, and sex composition, 1985¹.

		1982 	rood Year 1981	and Age (1979 	
		0.2	0.3	0.4	0.5	Total
Femal e	Percent of Sample Number in Catch	0.2 4	22.2 398	14.8 265	0.5 9	37.7 676
Male	Percent of Sample Number in Catch	0.0	40.5 725	21.2 380	0.6 11	62.3 1,116
Total	Percent of Sample Number in Catch	0.2 4	62.7 1,123	36.0 645	1.1	100.0 1,792

 $^{^{\}rm 1}$ Allocation was based on 8-1/2 in (21.6 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 31. Yukon River District 4 summer chum salmon commercial fishwheel catch, age, and sex composition, 1985¹.

		1982	Brood Year 1981	and Age 1980	Group 1979	
		0.2	0.3	0.4	0.5	Total
Stratum Dates: Sample Dates: Sample Size:	6/30-8/13 7/09-8/12 402					
Female	Percent of Sample Number in Catch	2.0 4,567	38.6 88,141	14.4 32,882	0.2 457	55.2 126,047
Male	Percent of Sample Number in Catch	0.5 1,142	28.1 64,166	15.5 35,394	0.7 1,598	44.8 102,300
Total	Percent of Sample Number in Catch Standard Error	2.5 5,709 1,780	66.7 152,307 5,374	29.9 68,276 5,221	0.9 2,055 1,077	100.0 228,347

 $^{^{1}}$ Allocated based on fishwheel samples from District 4 commercial catch.

Appendix Table 32. Yukon River District 6 summer chum salmon commercial fishwheel catch, age, and sex composition, 1985¹.

			Group			
		1982	1981	1980	1979	
		0.2	0.3	0.4	0.5	Total
Stratum Dates: Sample Dates: Sample Size:	7/19-8/18 7/23-8/13 433					
Fem al e	Percent of Sample Number in Catch	1.2 691	59.6 34,329	13.2 7,603	1.4 807	75.4 43,430
Male	Percent of Sample Number in Catch	0.2 115	18.0 10,368	6.2 3,571	0.2 115	24.6 14,169
Total	Percent of Sample Number in Catch Standard Error	1.4 806 326	77.6 44,697 1,155	19.4 11,174 1,096	1.6 922 348	100.0 57,599

¹ Allocation based on fishwheel samples from District 6 commercial catch.

Appendix Table 33. Yukon River District 1 summer chum salmon subsistence gillnet catch, age, and sex composition, 1985¹.

		1982	1981	1980	1979	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	0.3	32.5	13.2	0.2	46.2
	Number in Catch	73	7,913	3,214	49	11,249
Male	Percent of Sample	0.2	36.2	17.0	0.4	53.8
	Number in Catch	49	8,815	4,139	97	13,100
Total	Percent of Sample	0.5	68.7	30.2	0.6	100.0
	Number in Catch	122	16,728	7,353	146	24,349

 $^{^{\}rm 1}$ Allocation based on pooled 8-1/2 in (21.6 cm) and 6 in (15.2 cm) mesh gill-net samples from District 1 commercial catch.

Appendix Table 34. Yukon River District 2 summer chum salmon subsistence gillnet catch, age, and sex composition, 1985¹.

		1982	Brood Year 1981 0.3	and Age 1980 0.4	Group 1979 0.5	Total
Female	Percent of Sample	0.3	32.5	13.2	0.2	46.2
	Number in Catch	59	6,433	2,613	40	9,145
Male	Percent of Sample	0.2	36.2	17.0	0.4	53.8
	Number in Catch	40	7,166	3,365	79	10,650
Total	Percent of Sample	0.5	68.7	30.2	0.6	100.0
	Number in Catch	99	13,599	5,978	119	19,795

 $^{^{\}rm 1}$ Allocation based on pooled 8-1/2 in (21.6 cm) and 6 in (15.2 cm) mesh gill-net samples from District 1 commercial catch.

Appendix Table 35. Yukon River District 3 summer chum salmon subsistence gillnet catch, age, and sex composition, 1985¹.

		1982	rood Year 1981	and Age (1980	Group 1979	
		0.2	0.3	0.4	0.5	Total
Femal e	Percent of Sample	0.3	32.5	13.2	0.2	46.2
	Number in Catch	11	1,198	487	7	1,703
Male	Percent of Sample	0.2	36.2	17.0	0.4	53.8
	Number in Catch	7	1,335	627	15	1,984
Total	Percent of Sample	0.5	68.7	30.2	0.6	100.0
	Number in Catch	18	2,533	1,113	22	3,687

 $^{^{1}\,}$ Allocation based on pooled 8-1/2 in (21.6 cm) and 6 in (15.2 cm) gillnet samples from District 1 commercial catch.

Appendix Table 36. Yukon River District 4 summer chum salmon subsistence fishwheel catch, age, and sex composition, 1985.

		1982	Brood Year 1981	and Age 1980	Group 1979	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample Number in Catch	2.0 2,811	38.6 54,262	14.4 20,243	0.2 281	55.2 77,597
Male .	Percent of Sample Number in Catch	0.5 703	28.1 39,502	15.4 21,649	0.8 1,125	44.8 62,979
Total	Percent of Sample Number in Catch	2.5 3,514	66.7 93,764	29.8 41,892	1.0	100.0 140,576

¹ Allocation based on fishwheel samples from District 4 commercial catch.

Appendix Table 37. Yukon River District 6 summer chum salmon subsistence fishwheel catch, age, and sex composition, 1985¹.

	•	1982	1981	and Age (1979	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample Number in Catch	1.2 235	59.6 11,738	13.2 2,600	1.4 276	75.4 14,849
Male	Percent of Sample Number in Catch	0.2 40	18.0 3,545	6.2	0.2 39	24.6 4,845
Total	Percent of Sample Number in Catch	1.4 275	77.6 15,283	19.4 3,821	1.6 315	100.0 19,694

¹ Allocated based on fishwheel samples from District 6 commercial catch.

Appendix Table 38. Yukon River summer chum salmon samples by age, sex, and length (mm), collected in 1985 but not used to apportion harvest¹.

Location Con-		To	tal	A	ge 0.	2		Age 0.	3		Age 0.	4	A	ge 0.	5
Location, Gear, and Date	Sex	N	8	N	8	Length	N	8	Length	N	8	Length	N	8	Length
Big Eddy 2 8-1/2 in Gillnet 6/16-6/21	Female Male Total	11 15 26	42.3 57.7 100.0	0 0 0	0.0 0.0 0.0		3 4 7	11.5 15.4 26.9	5 96	8 11 19	30.8 42.3 73.1	5 96 6 2 2	0 0 0	0.0 0.0 0.0	-
Big Eddy ² 5-1/2 in Gillnet 6/16-7/03	Female Male Total	231 21 2 4 43	52.1 47.9 100.0	0 0 0	0.0 0.0 0.0	- - -	154 150 304	34.8 33.9 68.6	570 587	75 61 136	16.9 13.8 30.7	579 607	2 1 3	0.5 0.2 0.7	575 580
Middle Mouth ² 5-1/2 in Gillnet 6/17-7/04	Female Male Total	258 247 505	51.1 48.9 100.0	0 0 0	0.0 0.0 0.0		1 41 1 46 2 87	27.9 28.9 56.8	572 583	115 101 216	22.8 20.0 42.8	578 596	2 0 2	0.4 0.0 0.4	582
Stink Creek ³ Fishwheel 7/04-7/24	Female Male Total	684 346 1,030	66.4 33.6 100.0	0 0 0	0.0 0.0 0.0	-	517 23 2 749	50.2 22.5 72.7	5 4 0 5 7 0	164 112 276	15.9 10.9 26.8	558 598	3 2 5	0.3 0.2 0.5	535 650
District 4 8-1/2 in Gillnet 7/09-7/30	Female Male Total	7 33 40	17.5 82.5 100.0	0 1 1	0.0 2.5 2.5	610	4 20 24	10.0 50.0 60.0	594	2 12 14	5.0 30.0 35.0	610 620	1 0 1	2.5 0.0 2.5	570
District 6 5 Gillnet 7/23-8/13	Female Male Total	13 15 28	46.4 53.6 100.0	0 0 0	0.0 0.0 0.0		9 10 19	32.1 35.7 67.9	5 87 581	2 5 7	7.1 17.9 25.0	578 602	2 0 2	7.1 0.0 7.1	612

Length measured from mid-orbit to fork of tail.

Test fishing project located in District l near Emmonak.

Test fishing project located in District 4 near Kaltag.

⁴ Subsistence catch sample.

⁵ Commercial catch sample.

Appendix Table 39. Yukon River District 1 fall chum salmon commercial gillnet catch, age, and sex composition by sample period, 1985¹.

		1982	Brood Year 1981	and Age 1980	1979	
		0.2	0.3	0.4	0.5	Total
Stratum Dates: Sample Dates: Sample Size:	7/16-8/02 7/19-8/02 457					
Female	Percent of Sample Number in Catch	0.2 27		9.2 1,255	0.2 27	51.7 7,051
Male	Percent of Sample Number in Catch		36.1 4,923			
Total	Percent of Sample Number in Catch Standard Error	0.6 82 49	10,664	20.8 2,837 259		
Stratum Dates: Sample Dates: Sample Size:	8/05-8/13 8/06-8/13 681					
Female	Percent of Sample Number in Catch	0.4 465		4.6 5,350	0.3 349	
Male	Percent of Sample Number in Catch	0.4 465	35.5 41,290	7.3 8,491	0.3 349	
Total	Percent of Sample Number in Catch Standard Error	0.8 930 397	100,841	11.9 13,841 1,444		
Stratum Dates: Sample Dates: Sample Size:	7/16-8/13 7/19-8/13 1,138					
Female	Percent of Sample Number in Catch	0.4 492		5.1 6,605	0.3 376	
Male	Percent of Sample Number in Catch	0.4 520			0.3 376	
Total	Percent of Sample Number in Catch Standard Error	0.8 1,012 400	111,506	12.8 16,678 1,467		

Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 40. Yukon River District 2 fall chum salmon commercial gillnet catch, age, and sex composition, 1985¹.

		1982				
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	0.4	50.2	5.1	0.3	56.0
	Number in Catch	153	20,345	2,058	117	22,673
Male	Percent of Sample	0.4	35.6	7.7	0.3	44.0
	Number in Catch	162	14,399	3,139	117	17,817
Total	Percent of Sample	0.8	85.8	12.8	0.6	100.0
	Number in Catch	315	34,744	5,197	234	40,490

 $^{^{\}rm 1}$ Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 41. Yukon River District 3 fall chum salmon commercial gillnet catch, age, and sex composition, 1985¹.

		Brood Year and Age Group 1982 1981 1980 1979				
		0.2	0.3	0.4	0.5	Total
Femal e	Percent of Sample	0.4	50.2	5.1	0.3	56.0
	Number in Catch	20	2,595	262	15	2,892
Male	Percent of Sample	0.4	35.6	7.7	0.3	44.0
	Number in Catch	20	1,836	401	15	2,272
Total	Percent of Sample	0.8	85.8	12.8	0.6	100.0
	Number in Catch	40	4,431	663	30	5,164

 $^{^{\}rm 1}$ Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 42. Yukon River District 4B fall chum salmon commercial fishwheel catch, age, and sex composition, 1985¹.

		1982	Brood 1981	1980	Age Group 1979	1978	
		0.2	0.3	0.4	0.5	0.6	Total
Stratum Dates: Sample Dates: Sample Size:	8/14-9/13 8/19-9/09 256						
Female	Percent of Sample Number in Catch	2.3 279	46.9 5,698	4.3 522	0.0	0.0	53.5 6,499
Male	Percent of Sample Number in Catch	2.3 279	37.9 4,604	5.5 669	0.4 49	0.4 49	46.5 5,650
Total	Percent of Sample Number in Catch Standard Error	4.6 558 159	84.8 10,302 273	9.8 1,191 226	0.4 49 48	0.4 49 48	100.0

¹ Allocation based on fishwheel samples from District 4B commercial catch.

Appendix Table 43. Yukon River District 4C fall chum salmon commercial fishwheel catch, age, and sex composition, 1985.

		1982	Brood Year 1981	and Age 1980	Group
		0.2	0.3	0.4	Total
Stratum Dates: Sample Dates: Sample Size:	8/14-9/13 8/19-9/06 206		gas que das igue que que con		
Female	Percent of Sample Number in Catch	11.2 1,301	43.6 5,066	1.0 116	55.8 6,483
Male	Percent of Sample Number in Catch	8.7 1,011	31.6 3,671	3.9 453	44.2 5,135
Total	Percent of Sample Number in Catch Standard Error	19.9 2,312 324	•	4.9 569 175	100.0 11,618

Allocation based on fishwheel samples from District 4C commercial catch.

Appendix Table 44. Yukon River District 6 fall chum salmon commercial fishwheel catch, age, and sex composition, 1985¹.

			Brood Year	and Age	Group
		1982		1980	<u>-</u>
		0.2	0.3	0.4	Total
Stratum Dates: Sample Dates: Sample Size:	9/15-9/25 9/16-9/18 201				
Female	Percent of Sample Number in Catch	8.4 3,245		2.0 773	57.7 22,294
Male	Percent of Sample Number in Catch	7.0 2,705		2.5 966	42.3 16,344
Total	Percent of Sample Number in Catch Standard Error	15.4 5,950 986		4.5 1,739 566	100.0 38,638

¹ Allocation based on fishwheel samples from District 6 commercial catch.

Appendix Table 45. Yukon Territory, Canada, fall chum salmon commercial gillnet catch, age, and sex composition, 1985.

		Brood Year 1982 1981		and Age (
		0.2	0.3	0.4	0.5	Total
Stratum Dates: Sample Dates: Sample Size:	8/17-10/19 9/05-10/07 1,000		··· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ··	· *** *** *** *** *** *** *** *** *** *		
Female	Percent of Sample Number in Catch	1.4	42.1 15,049	5.9 2,109	0.0	49.4 17,659
Male	Percent of Sample Number in Catch	0.3 107	38.8 13,870	11.3 4,039	0.2 71	50.6 18,087
Total	Percent of Sample Number in Catch Standard Error	1.7 608 146	80.9 28,919 444	17.2 6,148 427	0.2 71 49	100.0 35,746

Allocation based on 6 in (15.2 cm) mesh gillnet samples from Yukon Territory (Dawson area) commercial catch.

Appendix Table 46. Yukon River District 1 fall chum salmon subsistence gillnet catch, age, and sex composition, 1985¹.

		1982	3rood Year 1981	and Age (1979	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample Number in Catch	0.4 50	50.2 6,670	5.1 675	0.3 38	56.0 7,433
Male	Percent of Sample Number in Catch	0.4 53	35.6 4,721	7.7 1,030	0.3 38	44.0 5,842
Total	Percent of Sample Number in Catch	0.8 103	85.8 11,391	12.8	0.6 76	100.0 13,275

¹ Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 47. Yukon River District 2 fall chum salmon subsistence gillnet catch, age, and sex composition, 1985¹.

		1982	Brood Year and Age Group 1981 1980 1979			
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	0.4	50.2	5.1	0.3	56.0
	Number in Catch	44	5,800	587	33	6,464
Male	Percent of Sample	0.4	35.6	7.7	0.3	44.0
	Number in Catch	46	4,106	895	33	5,080
Total	Percent of Sample	0.8	85.8	12.8	0.6	100.0
	Number in Catch	90	9,906	1,482	66	11,544

 $^{^{\}rm 1}$ Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 48. Yukon River District 3 fall chum salmon subsistence gillnet catch, age, and sex composition, 1985¹.

		Brood Year a 1982 1981		and Age (and Age Group 1980 1979		
		0.2	0.3	0.4	0.5	Total	
Female	Percent of Sample Number in Catch	0.4 9	50.2 1,150	5.1 116	0.3 7	56.0 1,282	
Male	Percent of Sample Number in Catch	0.4	35.6 814	7.7 178	0.3 7	44.0 1,008	
Total	Percent of Sample Number in Catch	0.8 18	85.8 1,964	12.8 294	0.6 14	100.0	
_							

 $^{^{\}rm 1}$ Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 49. Yukon River District 4 fall chum salmon subsistence fishwheel catch, age, and sex composition, 1985¹.

		1982	Brood Year and Age Group 1981 1980 1979			1978	
		0.2	0.3	0.4	0.5	0.6	Total
Femal e	Percent of Sample Number in Catch	6.2 1,410	45.5 10,351	2.8 637	0.0	0.0	54.5 12,398
Male	Percent of Sample Number in Catch	5.2 1,183	35.1 7,985	4.8 1,092	0.2 45	0.2 45	45.5 10,350
Total	Percent of Sample Number in Catch	11.4 2,593	80.6 18,336	7.6 1,729	0.2 45	0.2 45	100.0 22,748

 $^{^{\}rm 1}$ Allocation based on fishwheel samples from District 4B and 4C commercial catch.

Appendix Table 50. Yukon River District 6 fall chum salmon subsistence fishwheel catch, age, and sex composition, 1985.

		1982	Brood Year 1981	and Age 1980	Group
		0.2	0.3	0.4	Total
Female	Percent of Sample	8.4	47.3	2.0	57.7
	Number in Catch	2,794	15,735	665	19,194
Male	Percent of Sample	7.0	32.8	2.5	42.3
	Number in Catch	2,329	10,912	832	14,073
Total	Percent of Sample	15.4	80.1	4.5	100.0
	Number in Catch	5,123	26,647	1,497	33,267

 $^{^{} ext{1}}$ Allocation based on fishwheel samples from District 6 commercial catch.

Appendix Table 51. Yukon Territory, Canada, fall chum salmon subsistence gillnet catch, age, and sex composition, 1985¹.

		1982	rood Year 1981	1980	1979	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample Number in Catch	1.4 77	42.1 2,323	5.9 3 26	0.0	49.4 2,726
Male	Percent of Sample Number in Catch	0.3 17	38.8 2,141	11.3 624	0.2 11	50.6 2,793
Total	Percent of Sample Number in Catch	1.7 94	80.9 4,464	17.2 950	0.2	100.0 5,519

Allocation based on 6 in (15.2 cm) mesh gillnet samples from Yukon Territory (Dawson area) commercial catch.

Appendix Table 52. Yukon River fall chum salmon samples by age, sex, and length (mm), collected in 1985 but not used to apportion harvest¹.

Location, Gear,		To	tal		Age 0.	2		Age 0.	3		Age 0.	4	A	ge 0.	5
and Date	Sex	N	8	N	8	Length	N	8	Length	N	8	Length	N	8	Length
Big Eddy ² 6 in Gillnet 7/15-8/27	Female Male Total	269 206 475	56.6 43.4 100.0	1 6 7	0.2 1.3 1.5	600	219 163 382	46.1 34.3 80.4	601 608	47 37 84	9.9 7.8 17.7	606 621	; 2 0 2	0.4 0.0 0.4	5 80
Middle Mouth ² 6 in Gillnet 7/17-8/26	Female Male Total	26 1 17 1 43 2	60.4 39.6 100.0	4 2 6	0.9 0.5 1.4		229 149 378	53.0 34.5 87.5	601 612	28 20 48	6.5 4.6 11.1	605 615	0 0 0	0.0 0.0 0.0	
Ruby NB ³ Fishwheel 8/06-9/13	Female Male Total	542 459 1,001	54.1 45.9 100.0	7 7 14	0.7 0.7 1.4	56 6 5 8 6	411 332 743	41.1 33.2 74.2	567 600	116 117 233	11.6 11.7 23.3	584 612	8 3 11	0.8 0.3 1.1	57 8 58 8
Ruby SB ³ Fishwheel 8/06-9/20	Female Male Total	530 479 1,009	52.5 47.5 100.0	106 101 207	10.5 10.0 20.5	558 587	374 337 711	37.1 33.4 70.5	568 598	49 39 88	4.9 3.9 8.7	576 610	1 2 3	0.1 0.2 0.3	575 618
Manley 4 Fishwheel 8/17-9/20	Female Male Total	371 396 767	48.4 51.6 100.0	41 56 97	5.3 7.3 12.6	565 598	275 277 552	35.9 36.1 72.0	572 595	54 60 114	7.0 7.8 14.9	578 601	1 3 4	0.1 0.4 0.5	585 605
Yukon Territory ⁵ Fishwheel	Female Male Total	2,055 1,189 3,244	63.3 36.7 100.0	61 4 65	1.9 0.1 2.0	608 610	1,864 1,009 2,873	57.5 31.1 88.6	635 680	1 27 17 3 300	3.9 5.3 9.2	6 57 6 96	3 3 6	0.1 0.1 0.2	6 20 7 4 3
Old Crow ⁶ Gillnet	Female Male Total	22 45 67	32.8 67.2 100.0	1 0 1	1.5 0.0 1.5	462	16 41 57	23.9 61.2 85.1	514 541	5 4 9	7.5 6.0 13.4	531 546	0 0 0	0.0 0.0 0.0	_ _

Length measured from mid-orbit to fork of tail for all samples, except for Yukon Territory tagging study samples, which were measured from tip of snout to fork of tail, and Old Crow subsistence fishery samples, which measured from post-orbit to hypural plate.

² Test fishing project located in District 1 near Emmonak.

Test fishing project located in District 4.

Test fishing project located in District 6.

Tagging study capture site located approximately 3 miles upstream from US-Canada border in Yukon Territory.
Subsistence catch sample from village of Old Crow, Porcupine River drainage, Yukon Territory.

Appendix Table 53. Yukon River District 1 coho salmon commercial gillnet catch, age, and sex composition by sample period, 19851.

		Brood Year 1982	and Age 1981	Group 1980	
	·	1,1	2.1	3.1	Total
Stratum Dates: Sample Dates: Sample Size:	7/11-8/06 8/02-8/06 230				
Female	Percent of Sample Number in Catch	3.9 216	30.9 1,711		41.8 2,314
Male	Percent of Sample Number in Catch	4.3 238	47.4 2,624	6.5 360	
Total	Percent of Sample Number in Catch Standard Error	8.2 454 100	78.3 4,335 151	7:47	
Stratum Dates: Sample Dates: Sample Size:	8/08-8/13 8/09-8/13 232				
Female	Percent of Sample Number in Catch	7.8 1,727	28.4 6,288	4.3 952	40.5 8,967
Male	Percent of Sample Number in Catch	7.8 1,727	47.4· 10,494		59.5 13,173
Total	Percent of Sample Number in Catch Standard Error	15.6 3,454 529	75.8 16,782 624	8.6 1,904 408	100.0 22,140
Stratum Dates: Sample Dates: Sample Size:	7/11-8/13 8/02-8/13 462	·		num days days days data dam and days dam .	
Female	Percent of Sample Number in Catch		28.9 7,999		
Male	Percent of Sample Number in Catch	7.1 1,965	47.4 13,118	4.7 1,312	59.2 16,395
Total	Percent of Sample Number in Catch Standard Error	14.1 3,908 538	76.3 21,117 642		

Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 54. Yukon River District 2 coho salmon commercial gillnet catch, age, and sex composition, 1985¹.

		Brood Year 1982 1.1	and Age 1981 2.1	Group 1980 3.1	Total
Femal e	Percent of Sample	7.0	28.9	4.9	40.8
	Number in Catch	1,202	4,940	838	6,980
Male	Percent of Sample	7.1	47.4	4.7	59.2
	Number in Catch	1,216	8,117	812	10,145
Total	Percent of Sample	14.1	76.3	9.6	100.0
	Number in Catch	2,418	13,057	1,650	17,125

 $^{^{\}rm 1}$ Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 55. Yukon River District 3 coho salmon commercial gillnet catch, age, and sex composition, 1985¹.

		Brood Year 1982	and Age (Froup 1980		
		1.1	2.1	3.1	Total	
Female	Percent of Sample Number in Catch	7.0 12	28.9 50	4.9 8	40.8	
Male	Percent of Sample Number in Catch	7.1 12	47 . 4 81	4.7	59.2 101	
Total	Percent of Sample Number in Catch	14.1 24	76.3 131	9.6 16	100.0 171	

Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 56. Yukon River District 1 coho salmon subsistence gillnet catch, age, and sex composition, 1985.

		Brood Year 1982	and Age 1981	Group 1980	
		1.1	2.1	3.1	Total
Female	Percent of Sample Number in Catch	7.0 228	28.9 938	4.9 157	40.8 1,323
Male	Percent of Sample Number in Catch	7.1 230	47.4 1,539	4.7 154	59.2 1,923
Total	Percent of Sample Number in Catch	14.1 458	76.3 2,477	9.6 311	100.0

Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 57. Yukon River District 2 coho salmon subsistence gillnet catch, age, and sex composition, 1985.

		Brood Year 1982	and Age (Froup 1980	
		1.1	2.1	3.1	Total
Female	Percent of Sample Number in Catch	7.0 339	28.9 1,397	4.9 235	40.8 1,971
Male	Percent of Sample Number in Catch	7.1 344	47.4 2,291	4.7 228	59.2 2,863
Total	Percent of Sample Number in Catch	14.1 683	76.3 3,688	9.6 463	100.0

Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 58. Yukon River District 3 coho salmon subsistence gillnet catch, age, and sex composition, 1985¹.

		Brood Year 1982	1981 	1980	
		1.1	2.1	3.1	Total
Female	Percent of Sample Number in Catch	7.0 26	28.9 109	4.9 18	40.8 153
Male	Percent of Sample Number in Catch	7.1 27	47.4 178	4.7 18	59.2 223
Total	Percent of Sample Number in Catch	14.1 53	76.3 287	9.6 36	100.0 376

Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 59. Yukon River coho salmon sampled by age, sex, and length (mm), collected in 1985 but not used to apportion harvest¹.

Logation Coar		Total		Age 1.1			Age 2.1		Age 3.1			
Location, Gear, and Date	Sex	N	*	N	8	Length	N	8	Length	N	8	Length
Big Eddy ² 6 in Gillnet 7/23-8/27	Female Male Total	76 130 206	36.9 63.1 100.0	12 28 40	5.8 13.6 19.4	600 586	55 90 145	26.7 43.7 70.4	58 9	9 12 21	4.4 5.8 10.2	5 96 5 96
Middle Mouth ² 6 in Gillnet 8/15-8/26	Female Male Total	28 37 65	43.1 56.9 100.0	4 2 6	6.2 3.1 9.2	608	23 33 56	35.4 50.8 86.2	592	1 2 3	1.5 3.1 4.6	5 85 57 8
Ruby NB ³ Fishwheel 8/13-8/28	Female Male Total	0 3 3	0.0 100.0 100.0	0 0 0	0.0 0.0 0.0		0 3 3	0.0 100.0 100.0	523	0 0 0	0.0 0.0 0.0	_
Ruby SB ³ Fi shwheel 8/21-9/20	Female Male Total	190 280 470	40.4 59.6 100.0	24 34 58	5.1 7.2 12.3	572 55 4	1 56 223 379	33.2 47.4 80.6	572 554	10 23 33	2.1 4.9 7.0	563 5 49
Manley 4 Fishwheel 8/22-9/20	Female Male Total	104 190 294	35.4 64.6 100.0	11 12 23	3.7 4.1 7.8	5 5 7 5 5 7	86 166 252	29.3 56.5 85.7	560 568	7 12 19	2.4 4.1 6.5	5 53 57 3
District 4 5 Fishwheel 8/20-8/21	Female Male Total	0 4 4	0.0 100.0 100.0	0 0 0	0.0 0.0 0.0	-	0 4 4	0.0 100.0 100.0	566	0 0 0	0.0 0.0 0.0	
District 6 5 Fishwheel 9/16	Female Male Total	10 27 37	27.0 73.0 100.0	0 4 4	0.0 10.8 10.8	599	10 21 31	27.0 56.8 83.8	578 575	0 2 2	0.0 5.4 5.4	5 4 2

Length measured from mid-orbit to fork of tail.

² Test fishing project located in District 1 near Emmonak.

³ Test fishing project located in District 4.

⁴ Test fishing project located in District 6.

⁵ Commercial catch sample.

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